TEXTILE TECHNOLOGY DIGEST

VOLUME 5 APRIL 1948 NUMBER 4

Abstracts

ORGANIC FIBERS I

Fiber transmutation. Yanda process—fiber transmutation. Anon. *Rayon Textile Monthly 28,* 637-8 (Dec. 1947).

A process is described which actually transforms the fiber from its original state into a product with fundamentally different properties and with a resultant increase in tensile strength of from 50 to 200%.
ASJ TTD: 4-48

Fibers for tires. Equitable use of fibers in tire construction. U. S. Rubber Co. *Rayon Textile Monthly 28,* 533 (Oct. 1947).

Textiles (cotton or rayon) constitute the second largest item (after rubber itself) in tires. It is pointed out in a brief note that the price structure of rayon has remained more stable than that of cotton. TTD: 4-48

Science of fibers. W. T. Astbury, Univ. of Leeds. *Textil och Konfektion 4,* No. 9, 358-66 (Oct. 1947); *in Swedish.*

Fibers are considered as the principal components of all biological structures. A fiber is constructed from long chain-molecules, as a yarn is constructed from the fibers, so that the science of fibers is the science of chain-molecules. The most important methods now used in scientific research, dealing with fibers, are reviewed, and x-ray photographs of fibers as well as skeleton models of chain-molecules are shown. A survey is given of natural and artificial fibers. Attention is drawn to the importance of nucleic acids and their interaction with protein fibers. TTD: 4-48

Vegetable fibers I 1

Bast fibers. Method for removal of non-cellulose components from raw green bast fibers. I. G. Farbenindustrie A. G. PB 31292, July, 1939. *Bibl. Sci. Ind. Reports 4,* 621 (Feb. 14, 1947). 2 pp. Price: $1.00 (Microfilm or Photostat).

This is an addition to a patent (application I 56273 IVa/29b), which described a process for producing single fibers to be spun on cotton spinning equipment with removal of components other than cellulose from raw green bast fibers. The series of treatments was carried out by a method which allows the materials to be pervaded radially by the bath liquid. The present report recommends winding up the fibers on bobbins, piling up the bobbins on columns, and subsequently treating them radially with the fluid. TTD: 4-48

Bast fibers. Method for utilizing wood slivers accruing during mechanical delignification of unretted bast fiber plants. I. G. Farbenindustrie A. G. (Patent application I 65378 IVb/55b). PB 31301, Aug. 1939. *Bibl. Sci. Ind. Reports 4,* 622 (Feb. 14, 1947). 8 pp. Price: $1.00 (Microfilm or Photostat).

Hitherto known procedures for decomposing shives accruing during the delignification of raw green bast fibers have proved unsatisfactory. Valuable hemicelluloses and a high alpha-cellulose are obtained, if the chips, after being freed from dust and washed, are treated with an alkali solution at 20°C or lower. The hemicellulose (Xylan and others) are dissolved. The residue, separated from the major part of the lye, is cooked with acidic sulfite lye, obtained by passing SO_2 into the circulating liquor in a vessel outside the digester. Diagram. TTD: 4-48

Cotton. Variety affects cotton purchases. Francis L. Gerdes, USDA Stoneville Laboratory. *Textile Industries 111,* No. 4, 72-4 (Apr. 1947).

A review of the principal varieties of cotton grown in the U. S. and of some of their fiber characteristics. Improvement of fiber quality is also discussed.
TTD: 4-48

Cotton stalks. Cotton stalks as wood pulp extender in paper products. C. F. Atkins & Ulysses Brooks. PB L 52846. *Bibl. Sci. Ind. Reports 5,* No. 1, 21-22 (Apr. 4, 1947). Price: Microfilm $1.00 & Photostat $2.00.

This report covers: (1) Four series of tests on methods of preparing paper pulp from the stalks of the cotton plant (2) test data on papers made from some of the prepared pulps; and (3) a study of the effects of pressure of time and of the nature and concentration of chemicals on the yield of pulp from stalks treated with caustic soda and caustic soda and sodium sulfide. The highest wood content is in the lower stem and roots, but

the inner bark yields the best quality of fiber. The soda and sulfite methods gave the best yield of pulp. The results show that the cotton stalks can be processed to produce pulp suitable for making useful paper. The bursting strength of the paper compares favorably with that of some commercial papers, but the folding endurance appears to be low. Photomicrographs and drawings of the various woody structures of the cotton stalk are shown. A bibliography is included. The work was done at the Johnson C. Smith University.

TTD: 4-48

Flax. Flax from Northwest—in industry. P. R. Moore, Klearflax Linen Looms, Inc. *Chemurgic Digest 7,* No. 4, 15-17, 31 (Apr. 1948).

The reported average world acreage of flax places U. S. and Argentina second to Russia, 85% of U. S. production being in Minnesota and the Dakotas. Efforts to use seed flax for linen manufacture have been most successful in heavy yarns production (and subsequently in the rugs made from this yarn).

LCL TTD: 4-48

Animal fibers I 2

Chemistry of wool. Importance of wool chemistry in textile industry. Bailli Nilssen, *Tids. Textilteknik 5,* No. 11, 101-8 (Nov. 1947); *in Danish.*

Following introductory remarks regarding amino acids and peptide chains, the author considers the question of structure and chemical properties of wool keratin on the basis of the investigations of W. T. Astbury and J. B. Speakman. Then follows a discussion with respect to the understanding of various textile-chemical processes, especially dyeing and milling. In this connection, the author's own investigations are mentioned on the possibilities of dyeing wool according to principles which are entirely different from those previously applied.

TTD: 4-48

Felting. Method for treatment of fibrous material. I. G. Farbenindustrie A. G. (Patent application I 65715 IVc/29b). PB 31335, Sept. 1939. *Bibl. Sci. Ind. Reports 4,* 625 (Feb. 14, 1947). 3 pp. Price: $1.00 (Microfilm or Photostat).

The felting property of animal fibers can be improved if they are treated with compounds of polyvalent metals and alkoxylation products of aliphatic hydroxy compounds of high molecular weight, or of phenols which are substituted in the nucleus with hydrocarbon groups of high molecular weight. TTD: 4-48

Modification of wool. New developments of chemical modification of wool. Milton Harris & Alfred E. Brown, Harris Research Laboratories. *Am. Dyestuff Reptr. 36,* 316-19 (June 16, 1947).

A simple, rapid one-step method of modifying wool, *i.e.,* stabilizing it against the action of alkaline oxidizing and reducing agents, consists in treating the wool with a solution containing a reducing agent such as sodium hydrosulfite and a rebuilding agent such as ethylene dibromide. TTD: 4-48

Purifying raw wool. Freezing or extracting wool fibers instead of washing them. Anon. *Textil och Konfektion 4,* No. 10, 412, 416-17 (Dec. 1947); *in Swedish.*

Wool extraction with benzene or ether and the new method of freezing down the wool and removing the impurities in a shaking machine are discussed and compared with the usual washing method. TTD: 4-48

Rabbit hair. Properties and uses of rabbit hair for textile applications. A. C. Whitford, Edison College. *Textile Age 11,* No. 6, 84, 86-8 (June, 1947).

The increasing use of rabbit hair, particularly in blends with other fibers, is discussed. TTD: 4-48

Wool research. Practical use of modern wool research. J. B. Speakman. *Tids. Textilteknik 6,* No. 3, 21-7 (Mar. 1948); *in Danish.*

The importance of molecular orientation in relation to elasticity and other properties of textile fibers is mentioned. The use of calcium alginate rayon in the manufacture of light-weight all-wool fabrics is considered. The mechanism involved in the stretching and setting of wool fibers is explained on the basis of the molecular structure, and methods of obtaining the proper setting are discussed. The shrinkability of wool is dependent both on the elastic property of the fibers and on their surface structure. Wool can be made unshrinkable in various ways, *e.g.,* by deposition of polymers on or in the fibers; at the same time the wear-resistance is improved. TTD: 4-48

Wool substitute fabrics. Study of wool substitute fabrics. U. S. Quartermaster Board, $2.00. PB 32831, Vol. 2, p. 749. *Bibl. Sci. Ind. Reports 5,* (Apr. 18, 1947). TTD: 4-48

Artificial fibers I 3

Cellulose acetate. Method of preventing hydrolysis of cellulose esters, particularly in alkaline baths. I. G. Farbenindustrie A. G. (Patent application I 46833 IVa/8m). T. H. K. report. PB L 62866, Mar. 1933. 4 pp. *Bibl. Sci. Ind. Reports 5,* 337 (Apr. 25, 1947). Price: $1.00 (Microfilm or Photostat).

The method consists in adding to the baths aminoacetic acid or its salts. Cellulose acetates are especially mentioned. TTD: 4-48

Cellulose fiber treatment. Process for imparting the characteristics of animal hair to cellulose fiber. I. G. Farbenindustrie A. G. (Patent application I 56091 IVa/8m). T. H. K. report. PB L 62889, Oct. 1936. 2 pp. *Bibl. Sci. Ind. Reports 5,* 335 (Apr. 25, 1947). Price: $1.00 (Microfilm or Photostat).

The characteristics of animal hair are imparted to cellulose or regenerated cellulose by treatment with cyanamide or its salts. TTD: 4-48

Continuous rayon spinning. "Nelson" continuous spinning machine series. Anon. *Textile J. Australia 22,* 834-5 (Jan. 1948); *Rayon Textile Monthly 28,* 633-6 (Dec. 1947).

The Nelson continuous spinning machine consists of 3 main sections; the wet side, processing rollers, and the dry side. The supply of viscose and spinning liquids is found on the wet side where the thread is formed. The thread then travels across the processing rollers to the dry side, where it is spun on bobbins. TTD: 4-48

Cuprammonium rayon. The Dureta machine in the manufacture of cuprammonium rayon. Photographs. Claasen. Supplement to PB 40457; see also PB 19586. PB L 4057-S. *Bibl. Sci. Ind. Reports 5,* 130 (Apr. 11, 1947). Price: $1.00 (Microfilm or Photostat).

PB 19586 is a German report entitled "The Dureta machine in the production of cuprammonium rayon." PB 40457 is a translation of appendix 4 of that report, which outlines the steps in the cuprammonium spinning process in the production of stocking rayon under previous methods and under the fully automatic Dureta process. The seven photographs which make up this report show views of the spinning, washing, and aftertreatment of the yarn and also of the washing roller, three-roller assembly and the spooling machine. TTD: 4-48

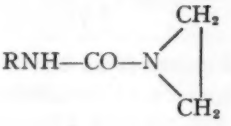
Esterification of cellulose. Method for improving the esterification capacity of cellulose. Marschall. Deutsche Acetat-Kunstseiden A.-G. Rhodiaseta, Freiburg, Breisgau. Ger. P. 712 785, Oct. 27, 1941. *Bibl. Sci. Ind. Reports 5,* 61 (Apr. 4, 1947). TTD: 4-48

Fiber production. Process for dissolving old textile materials with the aim of producing fibers capable of being spun. I. G. Farbenindustrie A. G. (Patent application I 66231 IVc/29b). PB 31393, Jan. 1940. *Bibl. Sci. Ind. Reports 4,* 629 (Feb. 14, 1947). 3 pp. Price: $1.00 (Microfilm or Photostat).

Old textile material such as woven fabric is immersed in oil emulsions or colloidal suspensions in oil, centrifuged, and subjected to dry or wet tearing. This procedure insures a uniform coating on the fibers and a thorough penetration of the material, so that the tearing process may take a smooth course. This contributes to the conservation of the quality and to the achievement of a useful stock. TTD: 4-48

Protein fibers. Process for refinement of fibers. I. G. Farbenindustrie A. G. (Patent application I 66922 IVc/29b). PB 31451, Apr. 1940. *Bibl. Sci. Ind. Reports 4,* 634 (Feb. 14, 1947). 4 pp. Price: $1.00 (Microfilm or Photostat).

Synthetic fibers based on proteins can be refined by treatment with compounds (or their homologues or derivatives) which have the general formulas



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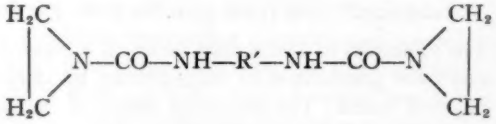
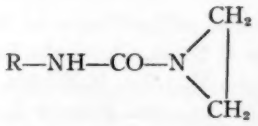


R and R′ stand for aliphatic or isocyclic groups. TTD: 4-48

Rayon. Method for liberating agglutinated fibers of rayon. I. G. Farbenindustrie A. G. (Patent application I 67251 IVc/29b). PB 31487, June, 1940. *Bibl. Sci. Ind. Reports 4,* 637 (Feb. 14, 1947). 3 pp. Price: $1.00 (Microfilm or Photostat).

The purpose can be achieved by adding 0.5-10 g/liter of a pound of the general formula



(R represents an aliphatic or isocyclic group with at least 10 C atoms). Such compounds are obtained by the reaction of isocyanic acid esters with alkyleneimines. The effect can be improved by further addition of cation-active compounds. The optimal pH value is slightly on the acid side. The amount of the substances per liter is between 0.5 and 10 grams. Two examples. Spinnability is much improved. TTD: 4-48

Rayon. Spinning of high-molecular substances with aqueous rayon spinning solutions (cuprammonium rayon). E. Konrad. PB 42389, July, 1933. 2 pp. (I. G. Farbenindustrie Kuko-Report, 11th meeting). *Bibl. Sci. Ind. Reports 4,* 472 (Feb. 7, 1947). Price: $1.00 (Microfilm or Photostat).

The only positive result of this research project was a soft rayon obtained by spinning an emulsion of polystyrene with cuprammonium rayon. It showed a luster varying according to styrene content. TTD: 4-48

Rayon staple. The cellulose basis of celluloid. I. G., Troisdorf (Kuko report, 26th meeting). PB 33102, Feb. 1943. *Bibl. Sci. Ind. Reports 4,* 570 (Feb. 14, 1947). 12 pp. Price: $1.00 (Microfilm or Photostat).

This is a very detailed report on the various techniques and tests used in the Troisdorf plant for the improvment of German beech and spruce cellulose. Analytical data on the celluloses used for the manufacture of rayon staple are tabulated. A short bibliography is also included. TTD: 4-48

Viscose rayon. Manufacture of viscose rayon in competition with new synthetic fibers. Nils Gralén, Swedish Textile Research Inst. *Svensk Papperstidning 51,* No. 1, 1-8 (Jan. 16, 1948); *in Swedish.*

The molecules of fibers must be of an elongated shape and have possibilities of cross-linking by chemical or physical bonds. The search for new fiber material has concentrated on such molecules, partly natural macromolecules (cellulose, proteins, alginates) and partly synthetic (nylon, polyvinyl compounds, etc.). The properties of artificial fibers are discussed, and some recent advances in viscose rayon manufacture related. The price factor and the world fiber production are discussed. It is concluded that viscose rayon staple has very good chances of keeping its position as the dominating artificial fiber, even if other fibers should be used for purposes where their properties are especially suitable. TTD: 4-48

Viscose. Viscose products such as fibers and films. Herrmann & Baum, Chemische Forschungsgesellschaft M. G. H. Ger. P. 717 186, Feb. 11, 1942. 2 pp. *Bibl. Sci. Ind. Reports 5,* 155 (Apr. 11, 1947). Price: 40¢ U. S. Patent Office. TTD: 4-48

Cellulose hydrate ribbons. Preparation of rolled ribbons made of cellulose hydrate. Kalle & Co. A. G. Schnecko & Voigt. Ger. P. 726 537, Oct. 15, 1942. *Bibl. Sci. Ind. Reports 5,* 159 (Apr. 11, 1947). 3 pp.

The ribbons are rolled in transverse direction. They are used in the textile industry. TTD: 4-48

Synthetic fibers I 4

Artificial leather. Synthetic high polymers for artificial leather and similar products. Weihe (I. G. Farbenindustrie. Kuko-Report, 13th meeting). PB 42426, Nov. 1934. 2 pp. *Bibl. Sci. Ind. Reports 4,* 476 (Feb. 7, 1947). Price: $1.00 (Microfilm or Photostat).

Standard artificial leather, shade material, and the like are obtained from solutions, particularly "Vinoflex", with plasticizers and pigments. Lower molecular weight polymers are extracted from the "Vinoflex" with alcohol, which makes the product more resistant to light and odor-free. Its softening point rises 10°. Leather-like products were obtained in three ways: (1) Fabric was saturated with mixed polymeric solution, dried, and pressed together, using heat, in several ways; (2) rolled films were arranged alternating with fabric in several layers, and pressed together to plates; or this was combined with method (1); (3) ground waste leather or cork and other products were combined with mixed polymers and formed into sheets. TTD: 4-48

Ethylene oxide derivatives. Derivatives of ethylene oxide and textile acids made from them. Ulrich, I. G., Ludwigshafen. (Zetko report, meeting of Apr. 1, 1933). PB 30167. *Bibl. Sci. Ind. Reports 4,* 668 (Feb. 21, 1947). Price: $1.00 (Microfilm & Photostat).

Structure and synthesis of the following substances are described: Mono-, di- and triethanolamine; their hydroxy ethers; ethanolamine sulfonic esters; morpholines; oxazolidines; aminoethane sulfonic acids; ethanolamides; triethanolamine esters; Na oxyethane sulfonate; thiodiglycol. A vast development in this field was expected. TTD: 4-48

Polymers. Method for producing polymeric compounds. I. G. Farbenindustrie A. G. (Patent application I 65377 IVc/39b). PB 31302, Aug. 1939. *Bibl. Sci. Ind. Reports 4,* 622 (Feb. 14, 1947). 7 pp. Price: $1.00 (Microfilm or Photostat).

The polymerizability of acids, in which the double bond is COOH far from the group, was unknown heretofore. Valuable mixed polymers are obtained from such compounds, 1,2,3,6-tetrahydrophthalic acid, as well as its derivatives and homologues, are readily convertible to polymers if mixed with olefins. In this manner novel polymerization resins were produced which are important for textile and leather manufacture. Six examples. TTD: 4-48

Polyvinyl chloride. Method for production of diaphragms for electrochemical purposes. I. G. Far-

benindustrie A. G. PB 31293, July, 1939. *Bibl. Sci. Ind. Reports 4,* 621 (Feb. 14, 1947). 3 pp. Price: $1.00 (Microfilm or Photostat).

Diaphragms made of chlorinated polyvinyl chloride fibers, designed for electrochemical uses, are made impermeable to the electrolytes by impregnation with silicic acid and insoluble inorganic salts. TTD: 4-48

Synthetic fiber structure. Some principles of structure of synthetic fibers. Herman F. Mark, Brooklyn Polytechnic Inst. *Am. Dyestuff Reptr. 36,* 323-7 (June 16, 1947).

With better control of polymerization processes new synthetic fibers are being produced. In this discussion it is pointed out that a polymer may exist in 3 condensed states: the solid (where both Brownian movements are frozen in), the rubbery (where the internal Brownian motion is activated), and the liquid (where both Brownian movements are activated). TTD: 4-48

Synthetic fibers. Process for producing synthetic fibers. I. G. Farbenindustrie A. G. (Patent application I 66553 IVc/29b). PB 31413, Feb. 1940. *Bibl. Sci. Ind. Reports 4,* 631 (Feb. 14, 1947). 3 pp. Price: $1.00 (Microfilm or Photostat).

Artificial fibers are made from cellulose, protein products, or synthetic substances by the use of spinning solutions containing an alkali-soluble sulfamides of saturated aliphatic hydrocarbons with a minimum of 8 C atoms. The fibers thus produced are distinguished by a soft feel. TTD: 4-48

Fiber processing I 6

Oiling fibers. Textile lubricants. I. G. Farbenindustrie A. G. (Patent application I 67017 IVc/29b). PB 31466, May, 1940. *Bibl. Sci. Ind. Reports 4,* 635 (Feb. 14, 1947). 4 pp. Price: $1.00 (Microfilm or Photostat).

Polyglycol ethers of aromatic or hydroaromatic OH compounds, substituted in the nucleus by at least one hydrocarbon group or acyl group with a minimum of 4 C atoms, may be used as textile lubricants. They give uniform coatings on textile fibers. They are advantageously combined with other lubricants. TTD: 4-48

INORGANIC FIBERS II

Filter cloth. Filter cloth for electrochemical purposes. I. G. Farbenindustrie A. G. (Patent application I 65889 IVb/12h). PB 31353, Nov. 1939. *Bibl. Sci. Ind. Reports 4,* 626 (Feb. 14, 1947). 2 pp. Price: $1.00 (Microfilm or Photostat).

This is an addition to German Patent Application I 65217 IVb/12h (see PB 31293). Formerly these

filter cloths were made of chlorinated polyvinyl chloride and impregnated with silicic acid and one or more insoluble inorganic salts. According to the new invention, the cloths are made of glass wool or asbestos fibers. Before impregnation they should be treated with the insoluble inorganic salt. TTD: 4-48

Glass fiber. Processing glass fiber. Interrogation of Herr Werner Schuller at Beltane School, Queensmere Road, Wimbleden, Dec. 3, 1946. D. Bramley. (BIOS Interrogation report 399). PB L 66183, Feb. 1947. 3 pp. *Bibl. Sci. Ind. Reports 5,* 312 (Apr. 25, 1947). Price: $1.00 (Microfilm or Photostat).

Herr Schuller, director of Werner Schuller & Kom. Ges., Colberg is a patentee of a novel process for the production of fiber glass by the drawing down of heated glass rods. Briefly, his process consists of feeding glass rods in sets of 80-100 through a heating zone and winding the reduced filaments at a draft of 400-1 onto a steel drum at 800 f. p. m. The accumulated wrap of filaments from an 8-hour shift is then cut off the drum, forming a hank or bundle of glass yarn. This is then cut into sets staple length and dispatched to a textile processing firm for conversion into yarns which are then woven to form insulating materials. The behavior of the glass staple in the carding process was discussed. Initially the textile trade had reported their inability to process his staple (1937). Herr Schuller therefore purchased one or two carding engines and experimented himself, with the result that it was now possible to produce a perfectly coherent card web. He then handed the details over to the trade and returned to the supplying of cut staple. Sketches illustrate the cutting process. See also PB 3880, Vol. 1, p. 723 for information on the Schuller process. TTD: 4-48

FIBER TO YARN III

Carding and spinning. Carding-spinning discussed by Georgia operating executives. Anon. *Textile Industries 111,* No. 5, 90-4, 96, 100, 102 (May, 1947).

A report on an open forum technical discussion on problems in carding, spinning, winding, twisting, and warp preparation. TTD: 4-48

Fiber preparation III 1

Card maintenance. Overhauling the card. Anon. *Saco-Lowell Bull. 19,* No. 1, 34-5 (June, 1947).

A method for installing new bushings for the cylinder bearing on the revolving flat card is described and illustrated. TTD: 4-48

Carding. Aids to better carding. Anon. *Saco-Lowell Bull. 19,* No. 1, 1-4 (June, 1947).

The Saco-Lowell continuous card stripper and waste control screen are discussed as practical aids for carding. TTD: 4-48

Carding. Improving card efficiency. Wm. J. Stone. *Textile Age 11,* No. 5, 66-9, 72-3, No. 6, 70, 72-3, No. 7, 56-8, No. 8, 60-2 (May-Aug. 1947).

Details of the carding process are discussed: speeds, picker laps, cylinder clothing, fillet winding, tacking down, stripping, flat grinding, flat brushes, cylinder screens, and settings of the doffer, screen, comb, and comb box. It is emphasized that the limitations of the card should be realized; that is, its productive capacity, percentage in type of waste, range of doffer speeds, etc. should be understood. TTD: 4-48

Carding problems. "Snowballs." Anon. *Saco-Lowell Bull. 19,* No. 1, 11-12 (June, 1947).

Snowballs are small white aggregates of cotton fiber which are rolled rather compactly into a ball. They are the result of faulty control of the air currents in the carding operation. Methods of getting rid of these aggregates are discussed. TTD: 4-48

Comb box. Ball-bearing comb box. Anon. *Textile Industries 111,* No. 5, 139 (May, 1947).

A new ball-bearing comb box for use on cotton carding machines eliminates problems of heat, friction, chatter, and wear. TTD: 4-48

Comber cycle. Graphic analysis of comber cycle. Peter D. Kaspar, Clark Thread Co. *Textile Industries 111,* No. 6, 83-6 (June, 1947).

All combers may be studied by a displacement-time study. A graphic analysis of the comber cycle is discussed and illustrated in this article. TTD: 4-48

Evener fulcrum. Sensitive evener fulcrum. Anon. *Saco-Lowell Bull. 19,* No. 1, 30-1 (June, 1947).

An illustrated description of a new design for the fulcrum in the end of the evener lever of pickers. This fulcrum is an aid in eliminating friction and in improving the sensitivity of the evener motion. TTD: 4-48

Fiber control. Fiber control during drafting. Anon. *Platt's Bull. 5,* 224-6 (Nov.-Dec. 1947).

Extra weighting of the top roller in drafting systems is claimed to give better fiber control. Ideal control could be found by modifying sliver cross sections so that roller pressure could extend over the whole drafting field. Plastic guides have been developed for slubbing

frames and high-speed frames which re-form the sliver and give an approximation to the ideal section. TTD: 4-48

High draft conversion. Conversion speed frames. Anon. *Platt's Bull. 5,* 205-8 (Nov.-Dec. 1947).

Stretch, bad creeling, piecings, and other defects may be eliminated when high drafting is employed at the speed frame. Details of conversion of speed frames to a high draft system are discussed. TTD: 4-48

Lap weights. What weight lap? Anon. *Saco-Lowell Bull. 19,* No. 1, 9-10 (June, 1947).

In a discussion of the weight per yard of picker laps furnished to the carding machine, it is concluded that the light lap has no advantages, and better results are obtained from medium and heavy weight laps. TTD: 4-48

Roll clearers. Selection and maintenance of roll clearers on preparatory machinery. Richard S. Crowsley. *Textile Age 11,* No. 12, 44, 48, 50, 52, 54, *12,* No. 1, 48, 50-2 (Dec. 1947; Jan. 1948).

The maintenance, especially cleaning, of the various types of clearers to be found in the card and spinning rooms is an appreciable item of expense; the choice of the proper clearer for a given job should be based upon several factors: the machine on which it is to be used, position of the roll, the surface texture of the roll covering, and the character of the fiber to be processed. TTD: 4-48

Roller top card. Inspecting roller top card. Anon. *Saco-Lowell Bull. 19,* No. 1 (June, 1947).

Maintenance notes on points of inspection and setting points and their adjustment for Saco-Lowell roller top cards are given in chart form. TTD: 4-48

Setting fancies. Method for setting fancies on woolen and worsted cards. Louis A. Fiori. *Textile Industries 111,* No. 4, 75-9 (Apr. 1947).

Incorrect setting of fancies to cylinders in woolen and worsted carding would cause abnormally short stripping intervals, excessive amounts of waste, etc. A method for setting fancies, based on a derived formula, which eliminates the danger of errors, is given and discussed. TTD: 4-48

Stop motion. Stop motion for cards. Anon. *Textile Industries 111,* No. 5, 139 (May, 1947).

A brief note on a stop motion for carding machines. TTD: 4-48

Underclearers. Reciprocating underclearers. Anon. *Saco-Lowell Bull. 19,* No. 1, 7-8 (June, 1947).

Underclearers are used to catch and retain stray fibers

and other waste matter. A description and diagrammatic sketch of the Saco-Lowell reciprocating underclearer are given. TTD: 4-48

Wadding card. New small pattern wadding card. Anon. *Platt's Bull. 5,* 221-2 (Nov.-Dec. 1948).

An illustrated description of a new small pattern wadding card which will produce an even web of wadding from low grade blends. TTD: 4-48

Carding. Carding mill. Adolph Stan Bruckner. Ger. P. 709 298, Sept. 11, 1941. *Bibl. Sci. Ind. Reports 5, 267* (Apr. 18, 1947).

Drawing included. TTD: 4-48

Beater control. Counting and stop arrangement for a beating or similar machine. Curt Issbrücker Ger. P. 725 998, Oct. 3, 1942. *Bibl. Sci. Ind. Reports 5,* 184 (Apr. 11, 1947).

Drawing included. TTD: 4-48

Card. Small card for manufacturing crepe ribbons. Paul Simons. Ger. P. 726 074, Oct. 7, 1942. *Bibl. Sci. Ind. Reports 5,* 280 (Apr. 18, 1947).

Drawing included. TTD: 4-48

Blends III 2

Blends. Study of manipulated blends. Alex. Morrison, Am. Woolen Co. *Am. Dyestuff Reptr. 36,* 330-1, 334 (June 16, 1947).

In laying down a blend for a manipulated fabric (of wool, reprocessed or reused, with cotton or rayon) allowance should be made for moisture and grease content and also for possible different proportional losses of the fibers in processing. TTD: 4-48

Blends. Processing quality blended fabrics. Emory A. Richards, Lippitt Worsted Mills, Inc. *Textile Industries 111,* No. 11, 128G (Nov. 1947).

A discussion of the blending of fibers, processing the blends in preparation for dyeing, and dyeing and finishing the blended fabrics. TTD: 4-48

Rayon staple blends. Use of rayon staple in woven fabrics in England. R. S. Greenwood, Courtaulds, Ltd. *Rayon Textile Monthly 28,* 640-2 (Dec. 1947).

Rayon staple fiber blends with cotton and wool (*e.g.,* Fibro and Rayolanda) are reviewed and the methods of spinning compared (such as by the cotton, Bradford worsted, woolen, flax tow, jute, and spun silk systems). TTD: 4-48

Spinning III 3

Cylinders. Spinning cylinders. Anon. *Saco-Lowell Bull. 19,* No. 1, 5-6 (June, 1947).

An illustrated description of a new spinning cylinder, built of cuplike sections into a long reinforced tube from deep drawn steel. TTD: 4-48

Drum spreader. How to use drum spreader. John Middleton. *Textile Industries 111,* No. 3, 63-4, 143 (Mar. 1947).

Operation and care of a drum spreader for removing "frozen" arbors from the cylinders of spinning frames, twisters, and spoolers are discussed. Advantages of this separator are prevention of damage to the cylinders and cylinder heads, savings in labor cost, and reduction of lost time. TTD: 4-48

Nylon staple fiber spinning. Spinning of nylon staple fibers on cotton system. John L. Beacon. *Rayon Textile Monthly 28,* 549-51 (Oct. 1947).

The machine adjustments necessary to spin 1 9/16" 1.5 denier nylon staple are discussed.
HAM TTD: 4-48

Package sizes. Checking package sizes. John Middleton. *Textile Industries 111,* No. 4, 88-9 (Apr. 1947).

The test procedure for testing package size and weight of drawing sliver, roving, spinning bobbins, and other types of yarn packages is described. TTD: 4-48

Spinning calculations. Spinning calculations simplified II. Anon. *Platt's Bull. 5,* 209-18 (Nov.-Dec. 1947).

Graphs and notes are given for simplified calculations of hand rovings, drafts, hank sliver, scutcher laps, etc. (For Part I, *see* TTD: *5,* 74). TTD: 4-48

Spinning frame maintenance. Program for spinning frame maintenance pays dividends. John L. Beacon. *Textile Age 11,* No. 2, 62, 64-5, 68, No. 3, 60, 62, 64 (Feb., Mar. 1947).

The spinning frame is indicative of the quality of yarn produced and should therefore have careful attention. Routine maintenance check-ups should be organized and reports made so that repairs can be made and the condition of the frames known at all times. Also the frames must be overhauled once a year. Details of overhauling spinning frames are given. TTD: 4-48

Spinning frames. Saco-Lowell head end for spinning frames and light twisters. Anon. *Saco-Lowell Bull. 19,* No. 1, 36 (June, 1947).

A brief note on the improvements found in the redesigned head end for the spinning frames and light twisters. TTD: 4-48

Spinning quality. Suggestions for quality control in spinning finer cotton yarns. Wm. J. Stone. *Textile Age 11,* No. 10, 52-4, 56, 58 (Oct. 1947).

The evenness of the lap, sliver, and roving should be watched closely. Proper adjustment of the doffer comb and of the roll settings are important. The breaking strength and a blackboard examination of the evenness are considered the best checks of the spun yarn. TTD: 4-48

Spinning ring travelers. Select traveler circles in proper proportion to flange size to reduce ring wear. Anon. *Traveler* No. 123, 8-13 (Apr. 1948).

Suggestions for determining the proper circle for a given yarn number are given and a chart is included, showing recommended circles in proper proportion to ring sizes. TTD: 4-48

Traveler. Nylon twister traveler. Anon. *Textile Industries 111,* No. 4, 90 (Apr. 1947).

A nylon traveler for spinning and twisting frames is being tested for its suitability for handling various fibers. Travelers of nylon have longer life than those of steel or bronze, give increased spindle speeds, and are not affected by atmospheric conditions. TTD: 4-48

Slubbed yarns. Device for producing slubbed yarns from artificial fibers. Gajewski & others. I. G. Farbenindustrie A. G. Ger. P. 723 470, Aug. 5, 1942. *Bibl. Sci. Ind. Reports 5,* 184 (Apr. 11, 1947).

Drawings included. TTD: 4-48

Winding III 4

Building motion. Combined building motion. Anon. *Platt's Bull. 5,* 223-4 (Nov.-Dec. 1947).

A roving build motion is most suitable for high speed winding, but it cannot be used on a ring frame fitted with the usual type of cop build. A description and diagrammatic sketch of a combination roving and cop building motion, adaptable to both high speed winding and ring frames, are given. TTD: 4-48

Spooler. Thread spooling machine with cutting device for the spooled thread. Nicolay. Dürkoppwerke A. G. Ger. P. 727 295, Oct. 30, 1942. *Bibl. Sci. Ind. Reports 5,* 184 (Apr. 11, 1947).

Drawings included. TTD: 4-48

Yarn processing III 5

Yarn conditioning. Device conditions yarn during winding. Anon. *Textile Industries 111,* No. 4, 133 (Apr. 1947).

A device known as Surco, for conditioning and lubricating cone and package yarn during the winding operation is briefly described. TTD: 4-48

Separating threads. Device for separating thread materials from a stream of air. Schneider, Sächsische Textilmaschinen-Fabrik. Ger. P. 710 607, Apr. 23, 1939. *Bibl. Sci. Ind. Reports 5,* 280 (Apr. 18, 1947).

Drawing included. TTD: 4-48

Yarn products III 6

Binder twine. Paper substitution in binder twine manufacture. Institute of Paper Chemistry. Final Report, Oct. 1943. 63 pp. Microfilm $2.00, Photostat $5.00. PB L 63556. *Bibl. Sci. Ind. Reports 5,* 22 (Apr. 4, 1947).

The final conclusions and recommendations regarding the suitability of paper are not given because of the termination of the project prior to the attainment of its objectives. The report gives, however, the results of a typical cylinder and fourdrinier paper and the results secured from their use. Several tables give data on tests with semi-wet-strength paper, high wet-strength paper, and the protection afforded paper by waxing. Tests on hard fiber binder twine are also made for comparison purposes. Reports of field tests on different binder twines made partly or wholly of paper are given. Miscellaneous correspondence relative to the problem are also included. This document is a final report under Project 990 WPB contract 91, with the OPRD. TTD: 4-48

Sewing thread. A general investigation of the sewing thread industry in Germany including machinery, processing, and production methods. E. B. Adams & H. H. Bull. PB L 60393, Nov. 1946. (BIOS Final Report 947, item 21, 31). *Bibl. Sci. Ind. Reports 5,* 130 (Apr. 11, 1947).

Lack of cotton and other raw materials is preventing any real progress in reestablishing the industry and a return to anything approaching prewar output in quality and quantity will take many years. Methods and equipment used at 7 establishments, including a textile machinery manufacturer, a model spinning and weaving mill, a technical institute, and 4 thread processing plants are given. TTD: 4-48

Yarn applications III 7

Tire cord. Sterling W. Alderfer (½ to Edw. D. Andrews). USP 2 431 977, Dec. 2, 1947.

A cord-tire fabric which constitutes the carcass of a tire is made as any of the standard weak-weft fabrics is made. The warp threads are the usual cords of cotton, rayon, nylon, or any other materials, but the weft threads are made of a synthetic resin, such as polyvinyl alcohol, which is soluble in water. When fabric constructed in this way is passed through a bath of latex, the water in the latex softens the weft threads and makes them incapable of offering resistance to the cords when tension is applied. It is claimed the process is not limited to the use of fabrics for automobile cord tires.
PMS TTD: 4-48

YARN TO FABRIC IV

Yarn preparation IV 1

Sizing spun rayon. Sizing spun rayon warps. J. J. Sussmuth. *Rayon Textile Monthly 28,* 643-4 (Dec. 1947).

Sizing spun rayon requires attention to certain fundamental facts. A sample formula for spun rayon spun on the cotton system is given along with the correct method of threading the yarn through the quetsch for soft and hard twisted yarns.
ASJ TTD: 4-48

Sizing rayon warps. Sizing rayon warps for pile fabrics. J. J. Sussmuth. *Rayon Textile Monthly 28,* 536-7 (Oct. 1947).

The formula for a size solution is included in a brief discussion of problems connected with weaving and cutting of rayon pile fabrics.
HAM TTD: 4-48

Warp sizing. Importance of correct squeeze roll pressure in sizing. Anon. *Rayon Textile Monthly 28,* 593 (Nov. 1947).

A mechanical pressure regulator (Norcross) has been developed which allows adjustment of the proper pressure to the warp as it passes between each pair of squeeze rolls, thus assuring more uniform sizing.
ASJ TTD: 4-48

Warp sizing. Cotton warp sizing. Paul V. Seydel. *Textile Industries 111,* No. 3, 83, 85, 87-8, 147, No. 4, 92, 94, 96, No. 5, 105, 107, 109, 111, 113, No. 7, 109, 111, 113, 115, 117, 119, No. 8, 110-12, 114, No. 9, 110, 112, 114, 117, 119, No. 11, 119-20, 123, 125, 127 (Mar.-May, July-Sept., Nov. 1947).

Deliquescents, antiseptics, weighting agents, penetrants, anti-foaming agents, tints for identification, and starch thinners and film modifiers are reviewed and their use in cotton warp sizing is discussed. Various aspects of the use of water in warp sizing are also reviewed. A description of the testing of material for sizing analyses and the testing of sized yarn is given. The sizing process itself is discussed with details of the size mix, equipment, controls, and slasher operation. TTD: 4-48

Warp beam. Compounded warp beam for frame knitting and weaving purposes. Schlick, Textilmaschinen-Fabrik Schlick. Ger. P. 710 547, Sept. 16, 1941. *Bibl. Sci. Ind. Reports 5,* 280 (Apr. 18, 1947).

Drawing included. TTD: 4-48

Weaving IV 2

Check strap. New check strap for high speed looms. Anon. *Textile Industries 111,* No. 6, 127 (June, 1947).

A check strap which consists of 5 rubberized V-belts is described and illustrated. This strap effects a more even distribution of checkage when the impact is made by the picker stick. TTD: 4-48

Loom fixing course. Loom fixing course. J. L. Bove, Berwick Weaving Inc. & Arthur Abbott. *Textile Age 9,* No. 11, 54-5, No. 12, 90, 93, *10,* No. 1, 78, 80-1, No. 4, 90, 92-3, No. 5, 90, 92-3, No. 6, 92, 94, 96, No. 7, 95-8, No. 8, 86, 88, 90-1, No. 9, 80, 82, 84, No. 10, 86, 88, 90, 92, 94, No. 11, 92, 94-6, No. 12, 82, 84-8, *11,* No. 1, 88, 90-3, No. 2, 74, 76, 78, 80, No. 3, 82, 84-7, No. 5, 84, 86, 88-9, No. 6, 94-6, 98-9, No. 7, 70-5, No. 8, 64, 68, 70, 72, 74, No. 9, 76-8, 80-1, No. 10, 82, 84, 86-8, 90, 92, 94, No. 11, 96, 98-100, No. 12, 76, 78, 80-2, *12,* No. 1, 78, 80-3 (Nov., Dec., 1945; Jan., Apr.-Dec. 1946; Jan.-Mar., May-Dec. 1947; Jan. 1948).

A course of instruction in loom fixing. (To be published in book form.) TTD: 4-48

Looms. Draper loom fixing. Ben H. Crawford, West Point Mfg. Co. (Now with Southeastern Eng. Co.). *Cotton 109,* No. 10, 125-8; No. 12, 115-18; *110,* No. 1, 103-5, 112, No. 2, 116-19, No. 3, 85-8, No. 5, 79-81, No. 6, 88, 90, 92, 94, No. 7, 98, 100, 102, 104, 106, No. 8, 70-4, No. 9, 79-81, No. 12, 86, 88, 90, 145; *Textile Industries 111,* No. 1, 87, 89, 91, 93, No. 3, 91, 93, 95, 97, No. 4, 98, 101-2, 105, 109, No. 5, 115, 117, 119, 121-2, No. 6, 107, 110, 113, 117, 119 (Oct., Dec., 1945; Jan.-Mar., May-Sept., Dec. 1946; Jan., Mar.-June, 1947).

A detailed coverage of all motions of the Draper loom, including information on increasing the life of supplies, reducing seconds, and improving quality. (To be published in book form.) TTD: 4-48

Selvedge defects. Selvedge imperfections. Geo. Creasey. *Textile age 11,* No. 12, 59-60, 62, 64 (Dec. 1947).

Edge loops in the selvedge are discussed; attention to the furring, checking, and picking of the shuttle should help in reducing the number of loopy selvedges.
TTD: 4-48

Textile pattern raising. Device for raising and conveying textile patterns. Dittrich, Fachgruppe Wäscheindustrie, Berlin & Dittrich (Walter H.) Firma. Ger. P. 727 349, Nov. 9, 1942. *Bibl. Sci. Ind. Reports 5,* 81 (Apr. 4, 1947).
TTD: 4-48

Warp tying-in. Preparing weave harness for twisting. H. E. Wenrich. *Rayon Textile Monthly 28,* 594-5 (Nov. 1947).

Some practical suggestions are given, largely for the benefit of new hands, on tying-in a new warp.
TTD: 4-48

Waxes. "Nibren" waxes. I. G. Farbenindustrie A. G. (Frames 1629-1632 of FIAT Microfilm Reel C 72, PB 17669). PB 42380, Oct. 1930. *Bibl. Sci. Ind. Reports 4,* 472 (Feb. 7, 1947). 4 pp. Price: $1.00 (Microfilm or Photostat).

These noncombustible waxes are based on chlorinated naphthalene. They are used for nonflammable fuses for explosives in mining, for impregnation of shuttles in weaving mills, and as a substitute for paraffin in electrical condensers. Other uses were being investigated.
TTD: 4-48

Knitting — IV 3

Knitting arts. Knitting arts exhibition. Anon. *Textile Age 11,* No. 4, 25-8, 32, 36, 40, 42, 44, 46, 48, 50, 55-6, 58, 60-2, 64, 66, 68-70, 73-4, 76, 78, 82, 84, 86, 88-90, 92, 94, 96, 98; *Textile Industries 111,* No. 4, 179-80, 182, 184, 186, 188, 190, 192, 194, 197-8, 200 (Apr. 1947).

An illustrated description of the exhibits at the 38th Knitting Arts Exhibition. (*See also* TTD: *4,* 112, 406.)
TTD: 4-48

Knitting machines — IV 3 a

Knitting machine. Supreme announces new knitting machine. Anon. *Textile Industries 111,* No. 3, 184 (Mar. 1947).

A brief illustrated description of the Model RO pattern wheel machine for "Jacquard-type" fancy pattern knitting.
TTD: 4-48

Knitting machine. Model ES machine. Tracy T. Teague. *Cotton 110,* No. 12, 175-6, 178, 180, 182; *Textile Industries 111,* No. 1, 170, 174, 177, 178, No. 3, 173-4, 176, 178, No. 5, 179-82 (Dec. 1946; Jan., Mar., May, 1947).

The development and operation of the Scott and Williams Model ES (embroidery stripe) machine, considered the most versatile knitting machine, are described and illustrated. Several small mechanical parts, of importance in operating the ES machine, are discussed, and details of adjustments in jack selection and cams are given. A discussion of pattern designing on ES machines with some illustrative examples is also given.
TTD: 4-48

Knitting machine. Flat frame knitting machine with a jacquard mechanism and cardigan transfer needles or spring needles. Max Nebel. Ger. P. 686 717, Nov. 11, 1942. 4 pp. *Bibl. Sci. Ind. Reports 5,* 185 (Apr. 11, 1947).

Drawings included.
TTD: 4-48

Knitting machine. Yarn guide bar drive for flat frame knitting machines. Geissler, Hilscher (G.) Firma. Ger. P. 702 367, Feb. 6, 1941. *Bibl. Sci. Ind. Reports 5,* 184 (Apr. 11, 1947).
TTD: 4-48

Knitting machine. Flat frame knitting machine with a knock-over comb. Paul Lieberknecht. Ger. P. 707 553, June 25, 1941. *Bibl. Sci. Ind. Reports 5,* 184 (Apr. 11, 1947).

Drawing included.
TTD: 4-48

Knitting machines. Method and mechanism for manufacturing patterned goods on knitting, frame knitting and similar machines. Trikotfabriken J. Schlesser A. G. Ger. P. 707 959, July 9, 1941. 3 pp. *Bibl. Sci. Ind. Reports 5,* 281 (Apr. 18, 1947).

Drawing included.
TTD: 4-48

Knitting machine. Circular rib knitting machine. Lieberknecht (Karl) Firma. Ger. P. 708 781, July 28, 1941. 4 pp. *Bibl. Sci. Ind. Reports 5,* 184 (Apr. 11, 1947).

Drawing included.
TTD: 4-48

Knitting machine. Device for the alternate longitudinal displacement of the eccentric shaft of flat frame knitting machines. Ehrhardt, Richter (David) A. G. Ger. P. 709 053, Aug. 5, 1941. 5 pp. *Bibl. Sci. Ind. Reports 5,* 280 (Apr. 18, 1947).

Drawing included.
TTD: 4-48

Knitting needle. Slide needle for picking up loops.

Adolf Holub. Ger. P. 709 510, Dec. 3, 1941. 3 pp. *Bibl. Sci. Ind. Reports 5,* 184 (Apr. 11, 1947).

Drawing included. TTD: 4-48

Knitting machine. Jacquard mechanism for circular frame and circular knitting machines. C. A. Roscher. Ger. P. 710 546, Sept. 16, 1941. 5 pp. *Bibl. Sci. Ind. Reports 5,* 280 (Apr. 18, 1947).

Drawing included. TTD: 4-48

Knitting gloves. Flat knitting machine for manufacturing seamless lengths for knitted gloves. Junghans & Mehnert. Elite-Diamantwerke A. G. Ger. P. 711 148, Sept. 26, 1941. *Bibl. Sci. Ind. Reports 5,* 184 (Apr. 11, 1947).

Drawing included. TTD: 4-48

Hosiery knitting. Flat frame knitting machine, especially cotton hosiery machine. Otto Schwind. Ger. P. 711 933, Oct. 9, 1941. 6 pp. *Bibl. Sci. Ind. Reports 5,* 280 (Apr. 18, 1947).

Drawings included. TTD: 4-48

Ribbing machine. Flat ribbing machine with a Jacquard pattern mechanism. Schubert & Salzer Maschinenfabrik, A. G. Ger. P. 713 579, Nov. 10, 1941. 6 pp. *Bibl. Sci. Ind. Reports 5,* 280 (Apr. 18, 1947).

Drawing included. TTD: 4-48

Knitting machine. Device for drawing off the welt of flat frame knitting machines. Schubert & Salzer Maschinenfabrik A. G. Ger. P. 713 580, Nov. 10, 1941. 3 pp. *Bibl. Sci. Ind. Reports 5,* 280 (Apr. 18, 1947).

Drawing included. TTD: 4-48

Knitting yarns. Device for twisting yarns for knitting or frame knitting machines. Walter Ulrich. Ger. P. 716 407, Jan. 19, 1942. 4 pp. *Bibl. Sci. Ind. Reports 5,* 281 (Apr. 18, 1947).

Drawing included. TTD: 4-48

Knitting machine. Sinker with holder for frame knitting machines and procedure for manufacturing such sinkers. Zwingerberger, Helios-Wirkmaschinenzubehör Zwingenberger & Co. Ger. P. 720 654, May 12, 1942. *Bibl. Sci. Ind. Reports 5,* 184 (Apr. 11, 1947).

Drawing included. TTD: 4-48

Knitting machine. Flat frame knitting machine, especially a flat rib-top frame knitting machine.

Schubert & Salzer Maschinenfabrik, A. G. Ger. P. 727 835, Nov. 13, 1942. 3 pp. *Bibl. Sci. Ind. Reports 5,* 280 (Apr. 18, 1947).

Drawing included. TTD: 4-48

Fabric construction IV 3 c

Hosiery knitting. Hire a manicurist. Erskine Root. *Textile Industries 111,* No. 6, 185-7 (June, 1947).

Regular inspection by a full-time manicurist of the hands of those operators who handle hosiery materially reduces the number of pulled threads (by 50%) and consequently the number of seconds. TTD: 4-48

Knitting heels. Has the round heel come to stay? Chas. R. Carter. *Textile J. Australia 22,* 814 (Jan. 1948).

A comparison of the round heel and square heel and their method of manufacture for full-fashioned hosiery. TTD: 4-48

Nylon hosiery. Plexiglas protects nylon thread, boosts hosiery production. Anon. *Rayon Textile Monthly 28,* 599-600 (Nov. 1947).

A Plexiglas box ($18 \times 8 \times 5''$) to enclose the machine, with its bobbins of nylon thread, which sews the seams up the back of full-fashioned hosiery, prevents changes in the moisture content of the thread, thus reducing or eliminating defective or skipped stitches in the seams. TTD: 4-48

Nylon hosiery. Nylon staple in hosiery. W. B. Vincent, E. I. duPont de Nemours & Co. *Rayon Textile Monthly 28,* 651-4 (Dec. 1947).

Various all-nylon staple yarns and blends of nylon staple are discussed, particularly with reference to wear, shrinkage, comfort, and warmth.
ASJ TTD: 4-48

Knit fabric. Louis Imbriani (to Frances Speier). USP 2 432 898, Dec. 16, 1947.

In a knitted fabric for wearing apparel, the marginal portion used for button holes is reinforced by an additional yarn introduced so as to be adjacent to each side of the button hole. TTD: 4-48

Circular knit goods. Method for manufacturing circular or truncated cone-shaped knitted goods. Neuber. Elite-Diamantwerke A. G. Ger. P. 707 661, July 11, 1941. *Bibl. Sci. Ind. Reports 5,* 184 (Apr. 11, 1947).

Drawing included. TTD: 4-48

Elastic knitted band. Flexible elastic band made from knitted material. August Meineke. Ger. P.

726 428, Nov. 2, 1942. *Bibl. Sci. Ind. Reports 4,* 544 (Feb. 7, 1947). 2 pp.

Supplement to patent 569 491. Drawing included. TTD: 4-48

Special fabrics IV 4

Carpets. C. H. Masland & Sons. Anon. *Textile Age 11,* No. 5, 33-4, 39-40, 44, 48, 50, 52 (May, 1947).

An historical sketch of a carpet manufacturing company, with illustrations. TTD: 4-48

Gantron. Gantner announces new fabric. Anon. *Textile Industries 111,* No. 4, 125 (Apr. 1947).

A new fabric, manufactured by the Coldfire process, is said to be more than twice as brilliant as ordinary textiles under normal daylight conditions, and much more brilliant at dusk or in cloudy weather, due to the conversion of ultraviolet rays into visible light. TTD: 4-48

Pile floor covering. Robt. J. Jackson (to Bigelow-Sanford Carpet Co., Inc.). USP 2 430 425, Nov. 4, 1947.

A pile floor covering which has the curly appearance of Persian lamb or caracul is made by using an especially prepared yarn for the pile. This pile yarn is made from worsted roving twisted to 8 turns per inch and the twist is then set while the yarn is in skein form under no tension. A second operation makes the yarn bulky by inserting 2 turns of twist in the direction opposite to that of the original twist. Best results are obtained when the yarn is woven as pile on a Servian (nipper type) loom.
PMS TTD: 4-48

Persian lamb cloth. Abraham Unger (to Duro Persian Mfg. Co., Inc.). USP 2 430 748, Nov. 11, 1947.

Flat strands of chenille are twisted together and then wrapped with a silk strand to produce a yarn for trimming and for the manufacture of imitation Persian lamb cloth.
PMS TTD: 4-48

Braider. Plaiting or braiding machine carrying cops and separately arranged guides. Herzog and Werkle, Herzog, August Günther. Ger. P. 719 780, Apr. 27, 1942. 6 pp. *Bibl. Sci. Ind. Reports 5,* 184 (Apr. 11, 1947).

Drawings included. TTD: 4-48

Fabric processing IV 5

Fabric straightener. Device for automatically straightening fabric. Ernst Melzer & Herbert Siegmund. Ger. P. 723 894, Aug. 12, 1942. *Bibl.*

Sci. Ind Reports 5, 82 (Apr. 4, 1947). TTD: 4-48

Thread remnants. Procedure and device for loosening thread remnants, weaving particles, etc., from naps or the like. Duesberg-Bosson (H.) Ateliers Soc. An. Verviers. Ger. P. 713 884, Nov. 17, 1941. *Bibl. Sci. Ind. Reports 5,* 184 (Apr. 11, 1947).

Drawing included. TTD: 4-48

Sheen on fabrics. Device for removing the sheen from fabrics. Boleslaw Meynarz. Ger. P. 716 083, Jan. 13, 1942. 3 pp. *Bibl. Sci. Ind. Reports 5,* 185 (Apr. 11, 1947).

Drawings included. TTD: 4-48

Fabric applications IV 6

Clothing. Clothes that breathe. W. Schweisheimer. *Rayon Textile Monthly 28,* 645-6 (Dec. 1947).

The desirability of "sensible" clothing for men is stressed. TTD: 4-48

Clothing. Woven or knitted material for articles of clothing, especially for beach and bathing suits. Kurt Polster. Ger. P. 725 819, Sept. 30, 1942. *Bibl. Sci. Ind. Reports 4,* No. 6, 544 (Feb. 7, 1947). 3 pp.

Drawing included. TTD: 4-48

Coated fabrics. New approach to coated fabrics. David S. Plumb, Monsanto Chemical Co. *Am. Dyestuff Reptr. 36,* 332-4 (June 16, 1947).

In a brief review of fabric coatings, principally the use of vinyl resins, it is pointed out that colors to be used, weight of the coating, and selection of the fabric are 3 important considerations. TTD: 4-48

Electrical insulation. Questions regarding electrical insulation. Hagedorn (I. G. Farbenindustrie. Kuko-report, 15th meeting). PB 42419, Nov. 1935. 5 pp. *Bibl. Sci. Ind. Reports 4,* 475 (Feb. 7, 1947). Price: $1.00 (Microfilm or Photostat).

This report discusses competition of plastic substances with insulators containing rubber or consisting of textiles or paper. Best prospects were for cables in which the standard rubber solutions were insufficient. Further improvement of the materials was declared necessary. TTD: 4-48

Fabric coating. Characteristics and application of polyvinyl butyral coatings. D. S. Plumb, Monsanto Chemical Co. *Textile Age 11,* No. 10, 64, 66, 68-9 (Oct. 1947).

A polyvinyl butyral film (of about 0.0015") renders the fabric coated waterproof and stain-resistant. TTD: 4-48

Laminates. Plastic laminators report on their fabric requirements. Anon. *Textile Age 11,* No. 6, 64-8 (June, 1947).

A potential market for cotton fillers in plastic laminates may amount to 150,000,000 lbs. Cotton at the lowest possible cost is desired. It should allow the best control of resin distribution and penetration. Sizing, or its elimination, is a major problem in the use of cotton for a filler, and several investigations connected with this problem are suggested. TTD: 4-48

Non-woven fabrics. Viscose staple used in non-woven fabrics. Anon. *Textile Industries 111,* No. 4, 127 (Apr. 1947).

Rayon staple non-woven fabrics have the advantages of greater strength and freedom from neps and may be dyed and printed easily. They are being used increasingly in industry and in the home. TTD: 4-48

Web fabrics. Manufacture of web fabrics. Maurice A. Goldman, Fiber Products Laboratories, Inc. *Rayon Textile Monthly 28,* 591-3 (Nov. 1947).

The manufacture of laminated webbing from the carding, drawing, and combing processes is described. Practically any class of cotton or synthetic fiber waste can be used. A laminated cotton web is suggested for the manufacture of heavy-duty pneumatic tires.
HAM TTD: 4-48

CHEMICAL RAW MATERIALS V

Adhesive coating. Method for producing adhesive coatings. I. G. Farbenindustrie A. G. (Patent application I 65775 IVd/8n). PB 31344, Oct. 1939. *Bibl. Sci. Ind. Reports 4,* 625 (Feb. 14, 1947). 4 pp. Price: $1.00 (Microfilm or Photostat).

This is an addition to German Patent Application I 65453 IVd/8n (see PB 31311). Whereas the main patent deals with emulsions of polymeric compounds with a content of urea-HCHO condensates, the new invention uses solutions or emulsions of polymeric compounds and urea-HCHO condensates which are applied one after another on the objects to be coated. Addition of plasticizers to one or both components increases the effect. TTD: 4-48

Aliphatic nitro compounds. Process for producing aliphatic nitro compounds. I. G. Farbenindustrie A. G. (Patent application I 67279 IVd/12o). PB 31490, June, 1940. *Bibl. Sci. Ind. Reports 4,* 637 (Feb. 14, 1947). 4 pp. Price: $1.00 (Microfilm or Photostat).

Novel nitropolycarboxylic acid nitriles and esters are obtained by condensing nitriles or esters of α, β-unsaturated aliphatic carboxylic acids with primary aliphatic nitro hydrocarbons and, if necessary, by hydrolyzing the resulting nitro polycarboxylic acid nitriles and esters. The end products are important as such or as intermediates for plasticizers, resins and textile aids. They are also of technical interest in the manufacture of pharmaceuticals. TTD: 4-48

Brighteners. Brightening agents. I. G. Farbenindustrie A. G. (Addition to application I 38646 IVa/8k (i).). (Patent application I 42414 IVa/8k). T. H. K. report. PB L 62946, Aug. 1931. 2 pp. *Bibl. Sci. Ind. Reports 5,* 338 (Apr. 25, 1947). Price: $1.00 (Microfilm or Photostat).

The essential constituents of these brighteners are monoesters of polyvalent alcohols which have enough free hydroxyl groups as to be soluble in water. These are of value in rayon and textiles. TTD: 4-48

Brighteners and softeners. Brightening and softening agents. I. G. Farbenindustrie A. G. (Patent application I 40850 IVa/8k). T. H. K. report. PB L 62941, Mar. 1931. 1 p. *Bibl. Sci. Ind. Reports 5,* 338 (Apr. 25, 1947). Price: $1.00 (Microfilm or Photostat).

It is claimed that the acid sulfuric acid esters of fatty acid hydroxyalkyl amides are particularly suitable for these purposes. TTD: 4-48

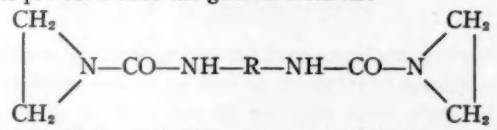
Carboxymethyl cellulose. Application of carboxymethyl cellulose to wet processing of textiles. Midwest Section of AATCC. *Textile Age 11,* No. 11, 71-3, 76; *Textile Industries 111,* No. 11, 128F (Nov. 1947).

A review of the uses of carboxymethyl cellulose in the wet-processing of textiles, particularly as a detergent aid. TTD: 4-48

Condensation Products. Preparation of condensation products. I. G. Farbenindustrie A. G. (Patent application I 67263 IVc/12o). PB 31488, June, 1940. *Bibl. Sci. Ind. Reports 4,* 637 (Feb. 14, 1947). 4 pp. Price: $1.00 (Microfilm or Photostat).

A process by which to prepare water-soluble, nitrogenous condensates of a high degree of purity is described.

The products have the general formula:

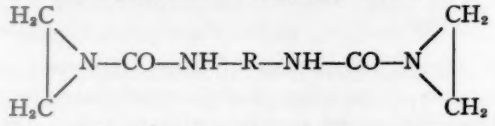


wherein R is a bivalent saturated aliphatic or cycloaliphatic radical with 4-8 C atoms. They are obtained by processing diisocyanic esters of the formula

OC = N—R—N = CO with ethyleninine. Technically, they are important in the textile, paper and leather industry. TTD: 4-48

Condensation products. Process for producing condensation products. I. G. Farbenindustrie A. G. (Patent application I 67335 IVc/12o). PB 31496, July, 1940. *Bibl. Sci. Ind. Reports 4,* 638 (Feb. 14, 1947). 5 pp. Price: $1.00 (Microfilm or Photostat).

Fibers made of native or regenerated cellulose are treated with compounds of the general formula:



(R is an aliphatic or isocyclic radical). TTD: 4-48

Condensation products. Process for producing condensation products. I. G. Farbenindustrie A. G. (Patent application I 67498 IVc/12o). PB 31514, July, 1940. *Bibl. Sci. Ind. Reports 4,* 639 (Feb. 14, 1947). 2 pp. Price: $1.00 (Microfilm or Photostat).

Highly pure, water-soluble, nitrogenous condensation products are obtained if alkyleneimines (especially ethyleneimines) are reacted with isocyanic acid or agents which give off this acid. The products, especially K,N-alkyleneureas, can be used as intermediates for the textile, lacquer and rubber industries. See also PB 31515. TTD: 4-48

Condensation products. Process for producing condensation products. I. G. Farbenindustrie A. G. (Patent application I 67531 IVc/12p). PB 31515, July, 1940. *Bibl. Sci. Ind. Reports 4,* 639 (Feb. 14, 1947). 5 pp. Price: $1.00 (Microfilm or Photostat).

N-Substituted monoethyleneureas can be prepared by reacting the N-halogen compounds of monocarboxylic acid amides with ethyleneimine or its homologues in the presence of alkalis. See also PB 31514. TTD: 4-48

Emulsions. Method of preparing of adhesive emulsions. I. G. Farbenindustrie A. G. (Patent application I 65453 IVd/8n). PB 31311, Aug. 1939. *Bibl. Sci. Ind. Reports 4,* 623 (Feb. 14, 1947). 5 pp. Price: $1.00 (Microfilm or Photostat).

The various emulsions used for impregnation of textiles or for fixation of pigments on textiles, paper, wood, etc. can be made more adhesive by the addition of urea-HCHO condensation products. The effect is that drying takes place at lower temperatures or in a shorter time, or that the adhesion and resistance are increased.

It is claimed that the condensation products may be added before or after polymerization of the emulsions, or the components, urea and HCHO may be added together with condensation accelerators, or preliminary condensation products. Plasticizers can also be added for further improvement. The method is further explained in 4 examples for printing and 2 for sizing. See also PB 31344 and PB 31452. TTD: 4-48

Finishing agents. Process for the finishing of fibers. I. G. Farbenindustrie A. G. (Patent application I 56849 IVc/8k). T. H. K. report. PB L 62892, Jan. 1937. 4 pp. *Bibl. Sci. Ind. Reports 5,* 335 (Apr. 25, 1947). Price: $1.00 (Microfilm or Photostat).

It was found that the reaction products of higher aliphatic amines with the compounds obtained from cyanamid, or its salts, with alkylene oxides provide highly active textile aids when applied in low concentrations. Instead of alkylene oxides, chlorohydrins can be used since the latter form alkylene oxides in the presence of alkali. In this manner, aminooxazoline is formed from sodium cyanamide and ethylene oxide or ethylene chlorohydrin; the aminooxazoline readily adds one molecule of stearylamine hydrochloride forming a new compound which is particularly adapted as a softener for rayon. TTD: 4-48

Finishing agents. Textile finishing agents. I. G. Farbenindustrie A. G. (Patent application I 59877 IVd/8k). T. H. K. report. PB L 62894, Dec. 1937. 3 pp. *Bibl. Sci. Ind. Reports 5,* 335 (Apr. 25, 1947). Price: $1.00 (Microfilm or Photostat).

For prior application see PB 62895. According to this application the hydroxyalkylated biguanides are particularly well suited as finishing agents, especially in delustering, when they are mixed with alcohols which contain a minimum of 10 C atoms and whose chains may be interrupted by heteroatoms or atom groups such as —O—, —COO—, and —CON.R—. TTD: 4-48

Finishing agents. Textile finishing agents. I. G. Farbenindustrie A. G. (Patent application I 57358 IVc/8k). T. H. K. report. PB L 62896, Mar. 1937. 3 pp. *Bibl. Sci. Ind. Reports 5,* 335 (Apr. 25, 1947). Price: $1.00 (Microfilm or Photostat).

The softening effect of bases of high molecular weight on textiles is considerably improved by using them together with dispersion agents which are free from acid groups. The bases under consideration are such amines as stearylamine, oleylamine, dodecylamine and the guanides and biguanides. TTD: 4-48

Finishing agents. Textile finishing agents. I. G. Farbenindustrie A. G. (Patent application I 59878 IVd/8m). T. H. K. report. PB L 62898, Dec. 1937. 3 pp. *Bibl. Sci. Ind. Reports 5,* 334-5 (Apr. 25, 1947). Price: $1.00 (Microfilm or Photostat).

For prior application, see PB 62895. This additional application claims it is advantageous to use hydroxyalkylated biguanides in mixture with electroneutral textile aids as finishing agents and in the delustering operation in combination with the dyeing process. TTD: 4-48

Finishing agents. Textile finishing agents. I. G. Farbenindustrie A. G. (Patent application I 57360 IVc/8k). T. H. K. report. PB L 62899, Mar. 1937. 3 pp. *Bibl. Sci. Ind. Reports 5,* 334 (Apr. 25, 1947). Price: $1.00 (Microfilm or Photostat).

The soluble salts of cation-active substances such as oleyl amine, stearyl biguanide, and alkyl pyridinium halides with aliphatic (or aromatic) hydroxycarboxylic (or hydroxysulfonic) acids were found to be helpful as textile finishing agents. See also PB 62894-95. TTD: 4-48

Finishing agents. Textile finishing agents. I. G. Farbenindustrie A. G. T. H. K. report. PB L 62903, Nov. 1937. 4 pp. *Bibl. Sci. Ind. Reports 5,* 334 (Apr. 25, 1947). Price: $1.00 (Microfilm or Photostat).

The complex metal salts of amines, guanides and biguanides proved valuable agents for the finishing of textiles. This document bears the number Wo. No. 2134; for Wo. No. 2134 I, see PB 62904. TTD: 4-48

Flocking adhesive. Synthetic rubber adhesive. Anon. *Textile Industries 111,* No, 3, 115 (Mar. 1947).

A new adhesive for use with textile fibers in making plush, velour, suede, and velvet surfaces is noted. TTD: 4-48

Glycerin. Applications of glycerin in textile dyeing and finishing. Olive S. Linkletter. *Textile Age 11,* No. 6, 80, 82 (June, 1947).

Because it acts as a good solvent, hygroscopic agent, and dispersing agent, glycerin finds wide application in dyeing and printing. TTD: 4-48

Plasticizers. Process for producing condensations products. I. G. Farbenindustrie A. G. (Patent application I 66554 IVc/12o). PB 31412, Feb. 1940. *Bibl. Sci. Ind. Reports 4,* 631 (Feb. 14, 1947). 6 pp. Price: $1.00 (Microfilm or Photostat).

Valuable condensates are obtained, if products which contain S, O and Cl (resulting from the reaction of Cl and SO_2 on saturated aliphatic compounds) with primary or secondary hydroxyamines. The end products are viscous oils or more solid bodies, usable as plasticizers or textile aids. Eight examples. TTD: 4-48

Processing oils. New nylon processing oils. Anon. *Textile Industries 111,* No. 4, 133 (Apr. 1947).

Sunoco Fibrlub, a non-emulsifying coning oil is applied to nylon by the throwsters; Sunotex oil, an emulsifiable trough oil, is applied to nylon at the knitting mill. Yarns processed with these oils are more pliable and produce hosiery of greater sheerness and durability. TTD: 4-48

Silicones. Silicones and their application to textile industry. F. L. Dennett, Dow Corning Corp. *Textile Industries 111,* No. 11, 128F-128G (Nov. 1947).

Silicone products have been developed in a variety of forms: fluids, greases and compounds, resins and varnishes, and silicone rubbers. A review of their properties and uses in the textile industry is given. TTD: 4-48

Softeners. Softeners. I. G. Farbenindustrie A. G. (Patent application I 59794 IVd/8k). T. H. K. report. PB L 62905, Dec. 1937. 3 pp. *Bibl. Sci. Ind. Reports 5,* 334 (Apr. 25, 1947). Price: $1.00 (Microfilm or Photostat). TTD: 4-48

Softeners. Anionic substantive softeners. Earle D. McLeod, Arnold Hoffman & Co., Inc. *Textile Industries 111,* No. 11, 128E-129E (Nov. 1947).

A review of the preparation, properties and applications of anionic substantive softeners, with particular reference to their use in preventing atmospheric fading of acetate dyes. TTD: 4-48

Softening. Process for the softening of textile fabrics. I. G. Farbenindustrie A. G. (Patent application I 69047 IVb/8k). T. H. K. report. PB L 62897. Mar. 1941. 3 pp. *Bibl. Sci. Ind. Reports 5,* 335 (Apr. 25, 1947). Price: $1.00 (Microfilm or Photostat).

Hydroxyalkylated biguanides have a good softening effect on textiles when used in mixtures with alcohols which contain a minimum of 10 C atoms and whose chain may be interrupted by heteroatoms. TTD: 4-48

Surface-active compounds. Process for producing esters. I. G. Farbenindustrie A. G. (Patent application I 54771 IVd/12o). PB 31392, Jan. 1940. *Bibl. Sci. Ind. Reports 4,* 629 (Feb. 14, 1947). 3 pp. Price: $1.00 (Microfilm or Photostat).

This addition to patent application I 54771 IVd/12o) describes a process for the preparation of esters, by re-

action aromatic or cycloaliphatic carboxylic acids, containing at least one (aliphatic or cycloaliphatic) substituent with a minimum of 3 C atoms, with ethionic acid. In the main patent, sulfonic acids of a specified nature are used instead of ethionic acid. The water-soluble metal salts of the esters produced by the outlined method are valuable surface-active materials. They are used in the textile industry, as such or in combination with allied substances. TTD: 4-48

Textile aids. Preparation of monosubstituted alkylene polyamines. I. G. Farbenindustrie A. G. (Patent application I 66880 IVc/12q). PB 31444, Apr. 1940. *Bibl. Sci. Ind. Reports 4,* 633 (Feb. 14, 1947). 5 pp. Price: $1.00 (Microfilm or Photostat).

Mixtures of polyamines containing at least 2 NH_2 groups and aldehydes (or ketones) are subjected to catalytic hydrogenation. The monosubstituted alkylene polyamines obtained are valuable textile aids. TTD: 4-48

Textile auxiliaries. Textile auxiliary products. W. Baird, $3.00. PB 31278, Vol. 2, p. 942. *Bibl. Sci. Ind. Reports 5* (Apr. 18, 1947). TTD: 4-48

Textile auxiliaries. Process for the preparation of hydroxyalkylated biguanides. I. G. Farbenindustrie A. G. (Patent application I 57359 IVu/12o). T. H. K. report. PB L 62895, Mar. 1937. *Bibl. Sci. Ind. Reports 5,* 335 (Apr. 25, 1947). Price: $1.00 (Microfilm or Photostat).

Biguanides of organic bases of high molecular weight are treated with alkylene oxides to form hydroxyalkylated biguanides. These substances are valuable textile auxiliaries. TTD: 4-48

Textile chemicals. Process for production of N-chlorination products of high molecular aliphatic acid amides. I. G. Farbenindustrie A. G. (Patent application I 67108 IVd/12o). PB 31470, May, 1940. *Bibl. Sci. Ind. Reports 4,* 635 (Feb. 14, 1947). 3 pp. Price: $1.00 (Microfilm or Photostat).

N-chlorination products of high-molecular fatty acid amides are readily obtained by reacting chlorine with aqueous suspensions of fatty acid amides having a minimum of 16 C atoms. These chemicals are used as intermediates in the production of textiles acids. TTD: 4-48

Textile chemicals. Textile aids. I. G. Farbenindustrie A. G. (Patent application I 49563 IVa/8o). T. H. K. report. PB L 62870, Apr. 1934. *Bibl. Sci. Ind. Reports 5,* 336 (Apr. 25, 1947). Price: $1.00 (Microfilm or Photostat).

The textile aids described consist of fatty acids whose alkali salts have the character of soaps and in which the methylene group next to the carboxyl group carries a hydrophilic radical. The derivatives of the acids, such as the amides, arylides and esters may be used. For the applications later produced from this one, see PB 62872, PB 62914 and PB 62916. TTD: 4-48

Textile chemicals. Textile aids. I. G. Farbenindustrie A. G. (Expansion of Patent application I 49563 IVa/8o). T. H. K. report. PB L 62871, May, 1934. 7 pp. *Bibl. Sci. Ind. Reports 5,* 336 (Apr. 25, 1947). Price: $1.00 (Microfilm or Photostat).

For prior application, see PB 62870. This application adds that other textile aids may be obtained by introducing acid groups into the substances described in the prior application or by using hydrophilic groups containing acid groups. The legibility of this document is poor. TTD: 4-48

Textile chemicals. Method for producing textile aids. I. G. Farbenindustrie A. G. (Patent application I 51931 IVc/12o²). T. H. K. report. PB L 62877, Mar. 1935. 4 pp. *Bibl. Sci. Ind. Reports 5,* 336 (Apr. 25, 1947). Price: $1.00 (Microfilm or Photostat).

The reaction of amides of acids of high molecular weight with tetraalkylmethylenediamine produces dialkylaminoalklamides of said acids. Their alkali salts have the character of soap. TTD: 4-48

Textile chemicals. Process for the preparation of emulsifiers, detergents and wetting agents. I. G. Farbenindustrie A. G. (Patent application I 39550 IVa/12o4). T. H. K report. PB L 62921, Oct. 1929. 3 pp. *Bibl. Sci. Ind. Reports 5,* 339 (Apr. 25, 1947). Price: $1.00 (Microfilm or Photostat).

Esters of fatty acids with at least one free hydroxyl group in the alcohol group are sulfonated. TTD: 4-48

Textile chemicals. Process for the preparation of emulsifiers, detergents and wetting agents. I. G. Farbenindustrie A. G. (addition to I 39550 IVa/12o4). T. H. K. report. PB L 62922, n. d. 2 pp. *Bibl. Sci. Ind. Reports 5,* 339 (Apr. 25, 1947). Price: $1.00 (Microfilm or Photostat).

For prior applications, see PB 62921 and PB 62920. This application describes a process in which derivatives of naphthenic acids and resin acids are used as starting products instead of or in addition to fatty acid derivatives. TTD: 4-48

Textile chemicals. Process for the preparation of emulsifiers, detergents and wetting agents. I. G. Farbenindustrie A. G. T. H. K. report. PB L 62923, May, 1930. 3 pp. *Bibl. Sci. Ind. Reports 5,* 339 (Apr. 25, 1947). Price: $1.00 (Microfilm or Photostat).

Aromatic hydrocarbons are condensed with fatty acid esters containing at least one free hydroxyl group in the alcohol radical. The resulting condensation products are sulfonated. This document is apparently application 12o4, I 410.30. TTD: 4-48

Textile chemicals. Process for the preparation of emulsifiers, detergents and wetting agents. I. G. Farbenindustrie A. G. T. H. K. report. (Patent application 12o4, I 812.30). PB L 62924, Aug. 1930. 2 pp. *Bibl. Sci. Ind. Reports 5,* 339 (Apr. 25, 1947). Price: $1.00 (Microfilm or Photostat).

For prior application, see PB 62923. Instead of the fatty acid esters, fatty acid alkylamides which contain at least one free hydroxyl group in the alkyl radical are used. TTD: 4-48

Textile chemicals. Process for the preparation of emulsifiers, detergents and wetting agents. I. G. Farbenindustrie A. G. T. H. K. report. PB L 62925, n. d. 3 pp. *Bibl. Sci. Ind. Reports 5,* 339 (Apr. 25, 1947). Price: $1.00 (Microfilm or Photostat).

In the main patent (see PB 62924) a process was described in which valuable textile auxiliaries were obtained. This additional application modifies the process in that mixtures of fatty acids (or triglycerides) with polyvalent alcohols and aromatic hydrocarbons are sulfonated. TTD: 4-48

Textile chemicals. Method for the production of emulsifiers, detergents and wetting agents. I. G. Farbenindustrie A. G. PB L 62935, Aug. 1930. 2 pp. *Bibl. Sci. Ind. Reports 5,* 338 (Apr. 25, 1947).

These substances are obtained by the reaction of aminosulfonic and with halides of fatty acids, the salts of which have a soapy character. The legibility of the document is very poor. TTD: 4-48

Textile chemicals. Method for the production of emulsifiers, detergents, wetting and softening agents. I. G. Farbenindustrie A. G. T. H. K. report. PB L 62944, Apr. 1931. 2 pp. *Bibl. Sci. Ind. Reports 5,* 338 (Apr. 25, 1947). Price: $1.00 (Microfilm or Photostat).

Aromatic hydrocarbons are condensed with olefins

containing 10 or more carbon atoms and having a terminal double bond. The condensation products obtained are sulfonated. As an alternative method, the olefins are condensed with the sulfonic acids of aromatic hydrocarbons. TTD: 4-48

Textile chemicals. Method of producing emulsifiers, detergents, wetting and softening agents. I. G. Farbenindustrie A. G. T. H. K. report PB L 62945, Apr. 1931. 2 pp. *Bibl. Sci. Ind. Reports 5,* 338 (Apr. 25, 1947). Price: $1.00 (Microfilm or Photostat).

These compounds are obtained by condensation of dicarboxylic acids with alkyl esters or alkyl amides of higher fatty acids with at least one free hydroxyl group in the alkyl radical. This document has reproduced poorly. TTD: 4-48

Textile chemicals. Process for preparing wetting agents, detergents, emulsifiers and softening agents. I. G. Farbenindustrie A. G. T. H. K. report. PB L 62949, Sept. 1931. 4 pp. *Bibl. Sci. Ind. Reports 5,* 337 (Apr. 25, 1947). Price: $1.00 (Microfilm or Photostat).

Amides of higher fatty acids, resin acids, and naphthene acids are condensed with aldehydes and aromatic hydrocarbons or their OH—, NH_2— or halogen-substituted derivatives. If necessary, sulfo groups or other groups which facilitate the solubility can be introduced. TTD: 4-48

Textile chemicals. Method for the production of emulsifiers, detergents, wetting and softening agents. I. G. Farbenindustrie A. G. Patent application I 44258 IVc/12o4). T. H. K. report. PB L 62952, Apr. 1932. 3 pp. *Bibl. Sci. Ind. Reports 5,* 337 (Apr. 25, 1947). Price: $1.00 (Microfilm or Photostat).

Aliphatic sulfonic acids, optionally substituted, or with their carbon chain interrupted by other atoms or atom groups, are transformed into their amides by means of bases containing nitrogen. The amides may contain hydrophile groups of a nonacid character. TTD: 4-48

Textile chemicals. Method for the production of emulsifiiers, detergents, wetting and softening agents. I. G. Farbenindustrie A. G. (Patent application I 44262 IVa/12o4 (see PB 62952)). PB L 62953, Apr. 1932. 3 pp. *Bibl. Sci. Ind. Reports 5,* 337 (Apr. 25, 1947). Price: $1.00 (Microfilm or Photostat).

In the condensation of sulfonic acids to sulfonamides, as described in the prior application, components are used, one or both of which are substituted with acid groups; or acid groups are introduced into the com-

pounds obtained as described in the main application. TTD: 4-48

Textile lubricants. Lubricants for textiles and leather. I. G. Farbenindustrie A. G. (Patent application I 67334 IVd/29a). PB 31495, July, 1940. *Bibl. Sci. Ind. Reports 4,* 638 (Feb. 14, 1947). 6 pp. Price: $1.00 (Microfilm or Photostat).

Chlorination products of straight-chain aliphatic hydrocarbons (saturated or unsaturated) with a minimum of 8 C atoms have proved suitable for use as lubricants for fibrous materials, particularly textiles and leather. No damage to the materials results from the use of these substances. Due to their considerable emulsifying property, they may be removed from the fiber by washing. TTD: 4-48

Textile treatment. Treatment of materials. I. G. Farbenindustrie A. G. (Patent application 23c I 8230). T. H. K. report. PB L 62934, Aug. 1930. 4 pp. *Bibl. Sci. Ind. Reports 5,* 339 (Apr. 25, 1947). Price: $1.00 (Microfilm or Photostat).

Monocarboxylic acid esters of polyglycerols, or their analogs, are suitable for use as auxiliaries in the treatment with liquids or solutions of wool, cotton, jute fiber, leather, rayon, paper, wood, and other materials. TTD: 4-48

Surface-active compounds V 2

Detergent. New textile detergent. Anon. *Textile Industries 111,* No. 5, 135 (May, 1947).

A brief note on Ahcovon T, a new detergent, to be used in scouring, dyeing, and finishing. TTD: 4-48

Detergents. Process for producing quaternary aminocarboxylic acids. I. G. Farbenindustrie A. G. (Patent application I 67118 IVc/12q). PB 31473, May, 1940. *Bibl. Sci. Ind. Reports 4,* 636 (Feb. 14, 1947). 5 pp. Price: $1.00 (Microfilm or Photostat).

Macromolecular capillary active quaternary aminocarboxylic acids are produced from secondary aminocarboxylic acids which contain an aliphatic group of at least 6 C or a cyclo or hydroaromatic group with at least a 3 C side chain. (These secondary aminocarboxylic acids are prepared by reacting primary amines with halogen carboxylic acids.) They are then alkylated on the nitrogen. These acids are used as detergents and dispersing agents in the textile, leather and paper industry. TTD: 4-48

Detergents. Emulsifiers and detergents. I. G. Farbenindustrie A. G. (Patent application I 49563 IVd/8o). T. H. K. report. PB L 62872, Sept. 1938. 3 pp. *Bibl. Sci. Ind. Reports 5,* 336 (Apr. 25, 1947). Price: $1.00 (Microfilm or Photostat).

This application describes the use of alpha hydroxy fatty acids with more than 10 C atoms, or of their water soluble salts, as emulsifiers or detergents. This application is one of 3 into which the earlier application (see PB 62870) was divided. The other 2 parts are represented by PB 6916 and PB 62914. TTD: 4-48

Detergents. Detergents and textile aids. I. G. Farbenindustrie A. G. (Patent application Wo. nr. 155311). (Addition to . . . application I 49563 IVa/8o). T. H. K. report. PB L 62873, Oct. 1934. 4 pp. *Bibl. Sci. Ind. Reports 5,* 336 (Apr. 25, 1947). Price: $1.00 (Microfilm or Photostat).

For prior application see PB 62870. This addition states that incorporation within such compounds as the amides, arylides and esters of fatty acids of further salt-forming groups improves their qualities. Groups of an acid nature are particularly suitable. TTD: 4-48

Detergents. Washing and cleansing agents. I. G. Farbenindustrie A. G. (Patent application I 51893 IVc/8i). T. H. K. report. PB L 62876, Mar. 1935. 4 pp. *Bibl. Sci. Ind. Reports 5,* 336 (Apr. 25, 1947). Price: $1.00 (Microfilm or Photostat).

The detergents described consist of substances which cover surface tension mixed with an addition of acid amides of the general formula $R—X—N\begin{matrix}R'\\R''\end{matrix}$. X represents the radical of an acid group such as —CO—, SO_2—. R, R′ R″ repesents hydrogen or an organic group. One of these groups, however, must have more than 5 C atoms. Acid amides of this nature cannot be used alone as detergents. TTD: 4-48

Textile aids. Patent applications on textiles and related subjects from the Textile Aids Commission (T. H. K.). I. G. Farbenindustrie A. G. PBL 17661, Oct. 1929-July 1936. 1073 pp. *Bibl. Sci. Ind. Reports 5,* 283 (Apr. 25, 1947). Price: $6.00 (Microfilm); $107.50 (Photostat). TTD: 4-48

Textile aids. Aids for the textile leather and paper industries. Schöller & Nüsslein, I. G. Farbenindustrie A. G. Ger. P. 710 228, Sept. 8, 1941. *Bibl. Sci. Ind. Reports 5,* 62 (Apr. 4, 1947). TTD: 4-48

Washing agents. Evaluation of synthetic washing agents. Anon. *Rayon Textile Monthly 28,* 563 (Oct. 1947).

In a brief note it is pointed out that a knowledge of the

foaming propensities of synthetic washing agents does not permit direct conclusions as to the scouring properties. TTD: 4-48

CHEMICAL PROCESSING VI

Fiber treatment. Process for the refinement of fiber materials. I. G. Farbenindustrie A. G. (Patent application I 67258 IVc/8k). PB 31486, June, 1940. *Bibl. Sci. Ind. Reports 4,* 637 (Feb. 14, 1947). 4 pp. Price: $1.00 (Microfilm or Photostat).

Both natural and synthetic fibrous materials can be improved by treating them with dialdehydes of the general formula

$$A(CH_2)_mX(CH_2)_nA,$$

where A is —CHO and X is O, S, S_2, NH,CH_2 or NR wherein R represents an aliphatic hydrocarbon or acid group. The hydrates or the anhydrates of the aldehydes may be used. It is claimed that all kinds of fibers thus treated were more resistant to alkaline treatments, tearing, and boiling *e.g.,* for neutral or acid dyeing. Three examples are given involving β,β dioxodiethyl sulfide. N-(β,β-diodiethyl) acetamide, and N-(β,β-dioxodiethyl) ethylamine. TTD: 4-48

Finish. Vinylite resin finish for nylons. Anon. *Textile Industries 111,* No. 3, 115 (Mar. 1947).

A brief note on a new vinylite resin finish for nylon hosiery. TTD: 4-48

Finishing. Everglaze process. Arnold L. Lippert, Jos. Bancroft & Sons Co. *Textile Industries 111,* No. 3, 57-8, 139 (Mar. 1947).

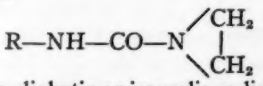
Fabrics may be given a durable, lustrous finish by the Everglaze process, a method of glazing or calendering and polymerizing with a thermo-setting resin of the urea-formaldehyde or melamine-formaldehyde types. Details of the process are described and diagrammatically illustrated. TTD: 4-48

Finishing. Method for producing a shining surface on textiles. I. G. Farbenindustrie A. G. (Patent application I 65340 IVd/8k). PB 31306, Aug. 1939. *Bibl. Sci. Ind. Reports 4,* 622 (Feb. 14, 1947). 5 pp. Price: $1.00 (Microfilm or Photostat).

Animal fiber materials (plush, velvet, etc.) take on a lustrous appearance when treated with acidfast synthetic washing agents in acidic medium. Such agents are sulfonates of higher aliphatic alcohols or condensation products of fatty, resin-, or naphthenic acids with aminocarboxylic acids. For acidification of the treating bath, strong volatile organic acids are used. This treatment of the materials is advantageously carried out following dyeing. TTD: 4-48

Finishing. Process for finishing of textiles. I. G. Farbenindustrie A. G. (Patent application I 64679 IVd/8k). PB 31383, May, 1939. *Bibl. Sci. Ind. Reports 4,* 629 (Feb. 14, 1947). 7 pp. Price: $1.00 (Microfilm or Photostat).

A finishing process for textiles consists of the treatment of the material with chemicals specified below and subsequent polymerization. The chemicals have the general formula



wherein R is an aliphatic or isocyclic radical with a minimum of 10 C atoms; 10 examples. The legibility is poor and the document will not reproduce well. TTD: 4-48

Finishing rayon. Permanent finishes on rayon. Leonard Shapiro, Alrose Chemical Co. *Rayon Textile Monthly 28,* 644 (Dec. 1947).

A lecture reviewing finishing methods for stabilizing rayon fabrics is briefly summarized. TTD: 4-48

Finishing rayon. Process for the finishing of rayon fabrics. I. G. Farbenindustrie A. G. (Patent application I 55206 IVc/8k). PB L 62886, June, 1936. 3 pp. *Bibl. Sci. Ind. Reports 5,* 335 (Apr. 25, 1947). Price: $1.00 (Microfilm or Photostat).

The process consists in a pretreatment of the fabrics with emulsions of high polymeric polyvinyl compounds, particularly polyvinyl chloride. Subsequently the fabrics are subjected to a treatment by which the emulsion is precipitated. TTD: 4-48

Finishing rayon. Process for finishing of rayon fabrics. I. G. Farbenindustrie A. G. (Patent application I 55236 IVc/8k). PB L 62887, June, 1936. 3 pp. *Bibl. Sci. Ind. Reports 5,* 335 (Apr. 25, 1947). Price: $1.00 (Microfilm or Photostat).

The process consists in the pretreatment of the fabrics with high molecular weight amines which are derived from resin acid and which contain guanidine radicals or groups which are derived from guanidine. TTD: 4-48

Finishing rayon. Process for imparting a mat surface to rayon. I. G. Farbenindustrie A. G. (Patent application I 56147 IVc/8k). T. H. K. report. PB L 62890, Oct. 1936. 3 pp. *Bibl. Sci. Ind. Reports 5,* 335 (Apr. 25, 1947). Price $1.00 (Microfilm or Photostat).

Dull surfaces on rayon fibers are obtained by first pretreating the fiber with the sulfate of an organic base which has an affinity for the fiber. After washing, the fiber is treated in known manner with a barium chloride solution. TTD: 4-48

Finishing rayon. Process for imparting a mat surface to rayon. I. G. Farbenindustrie A. G. (Patent application I 56252). T. H. K. report. PB L 62891, Aug. 1936. 3 pp. *Bibl. Sci. Ind. Reports 5,* 335 (Apr. 25, 1947). Price: $1.00 (Microfilm or Photostat).

In the current application the fiber is treated with the suspension of a pigment in the solution of salts of bases which have an affinity for fibers. TTD: 4-48

Finishing rayon. A process for finishing textiles. I. G. Farbenindustrie A. G. (Patent application I 59428). T. H. K. report. PB L 62902, Oct. 1937. 3 pp. *Bibl. Sci. Ind. Reports 5,* 334 (Apr. 25, 1947). Price: $1.00 (Microfilm or Photostat).

The textiles, particularly rayon, are treated with solutions of alkyl amino triazoles having more than 8 C atoms in the alkyl group. TTD: 4-48

Fulling mill. Pneumatically controlled fulling mill. Anon. *Textile Industries 111,* No. 5, 139 (May, 1947).

A brief description of an all stainless steel, pneumatically controlled fulling mill. TTD: 4-48

Mercerization. Process for mercerizing textiles. I. G. Farbenindustrie A. G. (Patent application I 41148 IVa/8k). T. H. K. report. PB L 61715, Apr. 1931. 2 pp. *Bibl. Sci. Ind. Reports 5,* 338 (Apr. 25, 1947). Price: $1.00 (Microfilm or Photostat).

The claim is that liquid ammonia has a mercerizing effect on cellulose. TTD: 4-48

Mercerization. A process for increasing the wetting properties of mercerizing solutions. I. G. Farbenindustrie A. G. (Expansion of patent 576384). T. H. K. report. PB L 62865, June, 1933. 3 pp. *Bibl. Sci. Ind. Reports 5,* 337 (Apr. 25, 1947). Price: $1.00 (Microfilm or Photostat).

The main patent describes the use of phenol polyhalides. The new claim is that partial replacement of the halogen atoms by alkyl groups improves the effect. The compounds used should contain at least one halogen atom and at least 2 C atoms in the form of alkyl groups. A table gives comparative figures. TTD: 4-48

Mercerization. Wetting agents for mercerizing solutions. I. G. Farbenindustrie A. G. (Patent application I 48933 IVa/8k). PB L 62868, Feb. 1934. 3 pp. *Bibl. Sci. Ind. Reports 5,* 337 (Apr. 25, 1947). Price: $1.00 (Microfilm or Photostat).

The wetting agents consist of mixtures of phenols, halogen phenols or sulfonates with sulfonic acid amides. A table shows comparative figures of the effects of different mixtures. TTD: 4-48

Mercerization. Wetting agents for mercerizing baths. (Patent application I 52123 IVc/8k). T. H. K. report. PB L 62878, Apr. 1935. 4 pp. *Bibl. Sci. Ind. Reports 5,* 336 (Apr. 25, 1947). Price: $1.00 (Microfilm or Photostat).

The wetting agent consists of mixtures of naphthenic acids with capillary-active sulfonates soluble in strong alkali baths. A table shows comparative data. TTD: 4-48

Mercerization. Wetting agents for mercerizing solutions. I. G. Farbenindustrie. (Patent application 8k I 88.30). T. H. K. report. PB L 62926, Aug. 1930. 2 pp. *Bibl. Sci. Ind. Reports 5,* 339 (Apr. 25, 1947). Price: $1.00 (Microfilm or Photostat).

Wetting agents for mercerizing solutions are described which were obtained by the sulfonation of alkylated aromatic mononuclear hydrocarbons. TTD: 4-48

Mercerization. Wetting agents for mercerizing solutions. I. G. Farbenindustrie A. G. (Patent application 8k 117 30). T. H. K. report. PB L 62936, July, 1930. 2 pp. *Bibl. Sci. Ind. Reports 5,* 338 (Apr. 25, 1947). Price: $1.00 (Microfilm or Photostat).

The use of carboxylic acids with 4-9 C atoms, the carbon chain of which may be interrupted by a bivalent radical, are claimed for this purpose. TTD: 4-48

Mercerization. Wetting agents for mercerizing solutions. I. G. Farbenindustrie A. G. (Patent application 8k I 116.30). T. H. K. report. PB L 62937, Oct. 1930. 4 pp. *Bibl. Sci. Ind. Reports 5,* 338 (Apr. 25, 1947). Price: $1.00 (Microfilm or Photostat).

The original application claims the use of such ethers of polyvalent alcohols as have at least 2 free hydroxyl groups in the molecule. This application is scarcely legible. It was submitted Sept. 25, 1930 and apparently was given number 8K I.113.30. The expansion of this patent states that at least one free hydroxy group of said ethers should be esterified with sulfuric acid. This document has the number 8k I.116.30. TTD: 4-48

Mercerization. Wetting agents for mercerizing solutions. I. G. Farbenindustire A. G. Patent application I 43289 IVa/8k). T. H. K. report. PB L 62950, Dec. 1931. 2 pp. *Bibl. Sci. Ind. Reports 5,* 337 (Apr. 25, 1947). Price: $1.00 (Microfilm or Photostat).

The wetting agents consist of sulfonates which are obtained by the purification of mineral oil fractions having low boiling points by means of sulfuric acid. TTD: 4-48

Mercerization. Wetting agents for mercerizing solutions. I. G. Farbenindustrie A. G. (Patent application I 43288 IVa/8k). T. H. K. report. PB L 62951, Dec. 1931. 2 pp. *Bibl. Sci. Ind. Reports 5,* 337 (Apr. 25, 1947). Price: $1.00 (Microfilm or Photostat).

The wetting agents described in this document consist of polyhalogen compounds of phenols. TTD: 4-48

Mercerization. Wetting agents for mercerizing solutions. I. G. Farbenindustrie A. G. (Patent application I 45627). T. H. K. report. PB L 62954, Oct. 1932. 4 pp. *Bibl. Sci. Ind. Reports 5,* 337 (Apr. 25, 1947). Price: $1.00 (Microfilm or Photostat).

Acid esters of phosphoric acid are mixed with sulfonates or phenols which are soluble in strong alkalies and with univalent alcohols of phenols. TTD: 4-48

Mercerization. Wetting agents for mercerizing solutions. I. G. Farbenindustrie A. G. Expansion of application I 45627 IVa/8k.) (Patent application I 46569). T. H. K. report. PB L 62956, Feb. 1933. 2 pp. *Bibl. Sci. Ind. Reports 5,* 337 (Apr. 25, 1947). Price: $1.00 (Microfilm or Photostat).

The main application (see PB 62954) described wetting agents obtained by mixing the acid mono- or diesters of phosphoric acid and univalent alcohols of phenols with sulfonates or phenols soluble in strong lye. This application claims that the neutral triesters of phosphoric acid may likewise be used. TTD: 4-48

Mercerization. Wetting agents for mercerizing solutions. I. G. Farbenindustrie A. G. (Patent application I 46668 IVa/8k). T. H. K. report. PB L 62957, Mar. 1933. 3 pp. *Bibl. Sci. Ind. Reports 5,* 337 (Apr. 25, 1947).

This as an expansion of applications I 45627 IVa/8k and I 46569 IVa/8k, according to which acid mono- and diesters or neutral triesters of phosphoric acid (mixed or nonmixed) were mixed with sulfonates soluble in strong alkalies or phenols. According to the new invention, solvents such as ethers, ketones, or aliphatic and aromatic alcohols can be added. For prior applications, see PB 62954 and PB 62956. TTD: 4-48

Mercerization. Wetting agents for mercerizing solutions. I. G. Farbenindustrie A. G. (Patent application I 46669 IVa/8k). T. H. K. report. PB L 62958, Mar. 1933. 3 pp. *Bibl. Sci. Ind. Reports 5,* 337 (Apr. 25, 1947). Price: $1.00 (Microfilm or Photostat).

Phenols of halogen phenols are mixed with alcohols which boil above 100°C, or their mixtures. If necessary,

hydrocarbons, ethers and ketones without free hydroxyl groups can be added. The phenols can be partially or completely replaced by sulfonates which are soluble in strong alkalies. TTD: 4-48

Resin finishing. Use of synthetic resins in finishing of fabrics. Domenico Fornelli. *Am. Dyestuff Reptr. 36,* 285-7, 312 (June 2, 1947).

The varied uses to which synthetic resins lend themselves as fabric finishes (*e. g.,* crease resistance, water repellency, improved dye fastness, stiffening, weighting, etc.) are briefly reviewed. TTD: 4-48

Resins. Method for producing condensation products. I. G. Farbenindustrie A. G. (Patent application I 66258 IVc/12o). PB 31389, Jan. 1940. *Bibl. Sci. Ind. Reports 4,* 629 (Feb. 14, 1947). 5 pp. Price: $1.00 (Microfilm or Photostat).

Resin-like products (highly viscous oils up to elastic resins) are obtained by reacting methylol compounds of aldehydes (trimethylol acetaldehyde, dimethylol butyraldehyde, dimethylol propionaldehyde) with aliphatic or aromatic carboxylic acids or their anhydrides. If necessary, further condensation with other substances may be performed. The products are useful in plastics and as textile aids. TTD: 4-48

Slip resistance of rayon. Process for increasing the resistance to slipping of rayon fabrics. I. G. Farbenindustrie A. G. (Patent application I 53921 IVc/8k). T. H. K. report. PB L 62881, Dec. 1935. 3 pp. *Bibl. Sci. Ind. Reports 5,* 336 (Apr. 25, 1947). Price: $1.00 (Microfilm or Photostat).

The rayon is treated with compounds obtained by sulfonating esters or amides of acidic resins, natural or synthetic, which contain OH-groups in the alcohol or amine radical. TTD: 4-48

Slip-resistant rayon. Process for increasing the resistance to slipping of rayon fabrics. I. G. Farbenindustrie A. G. (Patent application I 57658 IVc/8k). T. H. K. report. PB L 62900, Apr. 1937. 3 pp. *Bibl. Sci. Ind. Reports 5,* 334 (Apr. 25, 1947). Price: $1.00 (Microfilm or Photostat).

The fabrics are treated with water-soluble salts of acidic phosphoric acid esters with aliphatic (or araliphatic) alcohols having straight or branched chains. The alcohols may be replaced by phenols or substitution products of phenols. The salts may be of such phosphoric acid diesters as contain an aromatic or aliphatic group. TTD: 4-48

Washing. Process for cleaning textiles. I. G. Farbenindustrie A. G. (Patent application I 67093 IVd/8i). PB 31471, May, 1940. *Bibl. Sci. Ind.*

Reports 4, 636 (Feb. 14, 1947). 3 pp. Price: $1.00 (Microfilm or Photostat).

Cleaning of textiles may be accomplished rapidly and simply, if the textiles are soaked in a concentrated solution of a detergent and subsequently rinsed with water, adjusting its temperature to the nature of the textile fabrics. TTD: 4-48

Finishing. Process for finishing threads (or yarns) of cotton or cellulose hydrate. Atlas Ago, Chemische Fabrik A.-G. Mölkau. Ger. P. 705 428, Apr. 28, 1941. *Bibl. Sci. Ind. Reports 4,* 736 (Feb. 21, 1947). 2p. × .20 = $0.40.

The materials are treated with a cellulose triacetate solution in concentrated AcOH. TTD: 4-48

Desizing. Method of desizing all kinds of textile fabrics with pancreatic amylose. Wasmund, Rohm & Haas G.m.b.H., Darmstadt, July 8, 1941. Ger. P. 707 937. *Bibl. Sci. Ind. Reports 4,* 736 (Feb. 21, 1947). 2 pp. TTD: 4-48

COLOR VII

Color. A woman looks at color. Katherine E. Krenning. *Rayon Textile Monthly 28,* 557-8 (Oct. 1947).

A brief note on the influence of color in women's fashions. TTD: 4-48

Color and chemical structure. Color and chemical structure. I. H. Godlove, General Aniline & Film Corp. *Rayon Textile Monthly 28,* 289-91, 339-40, 390-1, 444-6, 561-2, 612-14, 665-6 (May-.Aug., Oct.-Dec. 1947).

The relation of color to chemical structure is discussed in some detail, particularly as to molecular structure and color of organic compounds.
HAM TTD: 4-48

Dyes. Methods for producing dye compounds and colorings on the fiber. I. G. Farbenindustrie A. G. (Patent application I 65971 IVd/22b). PB 31360, Nov. 1939. *Bibl. Sci. Ind. Reports 4,* 627 (Feb. 14, 1947). 8 pp. Price: $1.00 (Microfilm or Photostat).

Reaction of water-soluble quaternary dye compounds with alkalies (*e. g.,* aqueous solutions of hydroxides and carbonates of alkali metals or alkaline earth metals) yields an insoluble dye compound which contains an acrylic acid or a substitute acrylic acid group in its amino group. The easy transformation into the state of insolubility makes it possible to color textile fibers. The fiber is pretreated with the aqueous solution or with printing pastes, and then the diluted aqueous alkali

solutions are applied. This process makes it possible to fix on the fiber dyes of the anthraquinone, indigo or thioindigo series, nitro dyes, triphenyl dyes, azo dyes, etc. A second dye component can also be incorporated. Pyridinium chloride compounds are used as starting material. TTD: 4-48

Fiber treatment. Treatment of natural and synthetic formed structures. Aceta G.m.b.H. (I. G. Farbenindustrie A. G.) (Patent application A 78425 IVa/8m). T. H. K. report. PB L 62985, Feb. 1936. 17 pp. *Bibl. Sci. Ind. Reports 5,* 340 (Apr. 25, 1947). Price: $1.00 (Microfilm); $2.00 (Photostat).

Fibers are treated with substances which react with basic amine or imine groups, with the formation of open or cyclic amidines or guanidines. There are dicyanogen, cyanhalides and their polymers, cyanamide and its alkyl derivatives and tautomers, cyclic and acyclic isoureaethers and isothioureaethers, etc. Fourteen examples are given. TTD: 4-48

Bleaching VII 1

Bleaches. Bleaches and disinfectants. I. G. Farbenindustrie A. G. (Patent application I 45938 IVa/8i). T. H. K. report. PB L 62955, Dec. 1932. 2 pp. *Bibl. Sci. Ind. Reports 5,* 337 (Apr. 25, 1947). Price: $1.00 (Microfilm or Photostat).

Chlorosulfonamides of aliphatic hydrocarbons containing up to 6 C atoms in the molecule are used as bleaching agents and disinfectants. TTD: 4-48

Bleaching. Exchange of information helpful on bleaching problem. Anon. *Textile Industries 111,* No. 6, 88-9 (June, 1947)

Suggested remedies for eliminating sticky deposits on rubber squeeze rolls in white washers are discussed. TTD: 4-48

Bleaching tank. Plastic tank for bleach solution. Anon. *Textile Industries 111,* No. 3 111 (Mar. 1947).

A brief note on transparent "Lucite" acrylic resin tanks for storing chlorine bleaching solution. TTD: 4-48

Stripping dyes. Stripping color from wool. Edw. R. Schwarz, Mass. Inst. of Technology. *Textile Age 11,* No. 11, 48, 52-3; *Textile Industries 111,* No. 11, 128A-128B (Nov. 1947).

Electrolytically prepared and regenerated titanous, chromous, or vanadous sulfate may be successfully used as stripping agents for wool. The procedure and equipment used in this process are discussed, and the

advantages of the electrolytic method of stripping over other methods are given. TTD: 4-48

Dyeing VII 2

Acid dyeing. Application of chemical control in acid dyeing. Phila. Section of AATCC. *Textile Age 11,* No. 11, 53-4, 59; *Textile Industries 111,* No. 11, 128B-128C (Nov. 1947).

Results from experiments involving rates of dyeing and using pH measurements to check dyeing rate show that the pH curve of the equalizing dyes should follow a straight line to obtain a uniform rate of dyeing. Acid-forming compounds were used to adjust the rate and make it uniform. TTD: 4-48

Acid dyes. Process for modification of the affinity of formed structures. Aceta G.m.b.H. (Patent application A 80059 IVc/8k). (I. G. Farbenindustrie A. G..). PB L 62919, July, 1936. 16 pp. *Bibl. Sci. Ind. Reports 5,* 340 (Apr. 25, 1947). Price: $1.00 (Microfilm); $2.00 (Photostat).

This invention concerns both natural products and synthetics which have radicals with acid hydroxyl groups, particularly carboxyl or mercaptoalkyl groups, in fixed form but not bound to protein. It is claimed that such products may be given an intense affinity for dyes with acid groups. This is accomplished by treating the products with alkylene imines or their salts. Optionally, the acid products may first be saturated with amines having halogenalkyl groups, or mercapto groups. TTD: 4-48

Azo dyes. Process for producing azo dyes on the fiber. I. G. Farbenindustrie A. G. (Patent application I 66702 IVd/8m). PB 31427, Mar. 1940. *Bibl. Sci. Ind. Reports 4,* 632 (Feb. 14, 1947). 6 pp. Price: $1.00 (Microfilm or Photostat).

Coupling components used in the production of ice colors and certain diazoamino-compounds are dissolved in fixed alkalis such as NaOH. These solutions are printed or slop-padded on the fiber, if necessary after addition of thinners, and subsequently treated with acids. It was found that the necessary pH value can be reached if acid amides are added to the above alkaline solutions. On heating, the amides react with the alkali. Eleven examples. TTD: 4-48

Dye affinity. Method of evaluating the substances used in preparing fibers. I. G. Farbenindustrie A. G. (Patent application 42 1 I.192.30). T. H. K. report. PB L 62938, Oct. 1930. 4 pp. *Bibl. Sci. Ind. Reports 5,* 338 (Apr. 25, 1947). Price: $1.00 (Microfilm or Photostat).

The affinity of the substance for the textile fiber may be tested by mixing them first with dyes soluble in fats and

having no affinity for the fibers. This makes the effect of the substances visible. TTD: 4-48

Dyeing. Method for producing fast colors. I. G. Farbenindustrie A. G. (Addition to patent application I 65028 IVd/8m). PB 31326, Sept. 1939. *Bibl. Sci. Ind. Reports 4,* 624 (Feb. 14, 1947). 7 pp. Price: $1.00 (Microfilm or Photostat).

The main patent describes a method of dyeing cellulose fibers, or their mixtures with animal fibers, with certain azo dyes and treatment of the dyed materials with mixture of Co salts and chromates. The addition claims that for the chromates other oxidizing agents such as H_2O_2, alkali persulfates, and alkali perborates may be substituted. Ten examples. TTD: 4-48

Dyeing. Process for dyeing cellulose and regenerated cellulose fibers, either independently or along with other types of fiber as, for instance, wool. I. G. Farbenindustrie A. G. (Patent application I 54096 IVa/8m). PB L 62884, Jan. 1936. 4 pp. *Bibl. Sci. Ind. Reports 5,* 335 (Apr. 25, 1947). Price: $1.00 (Microfilm or Photostat).

The process consists in a pretreatment of the fibers with cation-active substances which have an affinity for the artificial fiber. As cation-active substances there are used high molecular weight bases containing either polyether groups or guanidine radicals or radicals derived from guanidine. TTD: 4-48

Dyeing. Effect of electrical charge in application of dyestuffs. Rhode Island Section of AATCC. *Textile Age 11,* No. 11, 61-2, 64; *Textile Industries 111,* No. 11, 128D (Nov. 1947).

A survey of the dyeing of cotton and wool fibers under varying conditions of electrical potential and current, pH, temperature, electrolytes, and dispersing agents. TTD: 4-48

Dyeing. Steam injection method for introducing dyes into kettles. Anon. *Textile Industries 111,* No. 6, 122 (June, 1947).

A description of a steam injection method of introducing dyes into the dye kettle is given with an accompanying diagrammatic sketch. TTD: 4-48

Dyeing. Package dyeing in Germany, dyeing of hosiery in Germany, hot water heating of dye liquor, method of dyeing and bleaching card sliver, synthetic fibers and their dyeing. T. R. Smith & others, $3.00. PB 50759, Vol. 4, p. 283. Hobart Publishing Co., Box 4127, Chevy Chase Branch, Washington, D. C. These publications are listed on the second page of *Bibl. Sci. Ind. Reports 5,* (Apr. 18, 1947). TTD: 4-48

Dyeing chlorinated wool. Effect of aqueous chlorination on dyeing and fastness properties of wool. New York Section of AATCC. *Textile Age 11,* No. 11, 59-61; *Textile Industries 111,* No. 11, 128E (Nov. 1947).

Wool, which has been subjected to aqueous chlorination treatments and then dyed, is found to have a decreased fastness to washing but little change in light fastness. The rate of dyeing is considerably influenced by chlorination treatments while the final dyeing shows little difference when acid, milling, metallized, chrome, and solubilized vat dyes are used. TTD: 4-48

Dyeing cotton. Processing procedures for modern yarn dyeing. Robt. W. Joerger, Franklin Process Co. *Textile Industries 111,* No. 5, 84-6, 147 (May, 1947).

The 2 major steps in dyeing cotton yarn with naphtol dyes consist of the alkaline solution of the naphthol being dyed on, and then placing the yarn in a slightly acid solution of the diazotized base, followed by rinsing and soaking. Details of dissolving the dye, use of formaldehyde, coupling solutions, and yarn preparation are discussed. TTD: 4-48

Dyeing nylon. Effect of physical differences upon dyeing of nylon staple. R. J. Thomas & B. F. Faris, E. I. duPont de Nemours & Co., Inc. *Textile Industries 111,* No. 11, 128H (Nov. 1947).

A review of the effect of acid, direct, and acetate dyes on continuous filament nylon and nylon staple. TTD: 4-48

Dyeing protein fibers. Process for modification of the affinity of protein fibers. Aceta G.m.b.H. (Patent application A 79529 IVc/81c). (I. G. Farbenindustrie A. G.). T. H. K. report. PB L 62864, May, 1936. 7 pp. *Bibl. Sci. Ind. Reports 5,* 340 (Apr. 25, 1947). Price: $1.00 (Microfilm or Photostat).

This application is concerned with affinity for dyes. The fibrous material, of natural or synthetic origin, is impregnated evenly with an esterification catalyst. Then it is reacted with easily esterified aliphatic alcohols at an increased temperature. The alcohols may be partially or wholly replaced by easily dissociable esters. The document is not very legible in part. TTD: 4-48

Dyeing protein fibers. Method for obtaining dyeings of improved fastness on protein fibers. Aceta G.m.b.H. (Patent application A 79530 IVa/8m). (I. G. Farbenindustrie A. G.). PB L 62918, May, 1936. 9 pp. *Bibl. Sci. Ind. Reports 5,* 340 (Apr. 25, 1947). Price: $1.00 (Microfilm or Photostat).

The method is to be applied for dyeing with dyes containing acid groups. It consists in treating the fibrous material with alcohols, or substances releasing alcohol in the presence of esterification catalysts. The method may be used following the dyeing, or simultaneously with it, or with the fixation. TTD: 4-48

Dyeing protein fibers. Process for modifying the affinity of protein fibers. Aceta G.m.b.H. (Patent application A 79528 IVc/8k). (I. G. Farbenindustrie A. G.). T. H. K. report. PB L 62988, May, 1936. 6 pp. *Bibl. Sci. Ind. Reports 5,* 340 (Apr. 25, 1947). Price: $1.00 (Microfilm or Photostat).

The fibers are treated with alcohols and catalysts adapted to esterification. Alcohol is added in only such quantities as are sufficient to handle the dye liquor. TTD: 4-48

Dyeing theories. Colloidal aspects of theories of dyeing. C. Keyvar. *Textile J. Australia 22,* 796-800, 872-4 (Dec. 1947; Jan., 1948).

The relationship of colloids to dyeing with respect to the dyebath solution, dyes, fibers, auxiliaries, and theories involved is discussed. TTD: 4-48

Dyeing wool. Theory and practice in wool dyeing. Frederick L. Goodall, Geigy Color Co., Ltd. *Am. Dyestuff Reptr. 36,* 380-5 (July 14, 1947); *Textile Industries 111,* No. 3, 65, 147 (Mar. 1947).

This is a review of the theory and practice in dyeing wool with acid and afterchromed colors in which the importance of fiber pores, the effect of Glauber salt and temperature on the rate of dyeing, and the effect of acid on the rate of dye exhaustion is discussed. TTD: 4-48

Dyeing wool. The crocking of dyed wool. O. Maxwell. *Norsk Tekstiltidende 29,* No. 1, 10-16 (Jan. 1948); *in Norwegian.*

Electron microphotographs of dyed wool show accumulation of dye particles on the surface of the wool fibers before the boiling temperature is reached. The dyeing therefore is improved, as was known long ago, by mechanical treatment, or by soap and alkali, which dissolve the accumulated dye. Unwashed animal fibers are very difficult to dye and a pure material is of great importance for dyeing. TTD: 4-48

Fast colors. Method for producing fast colors. I. G. Farbenindustrie A. G. (Patent application I 65230 IVd/8m). PB 31297, July, 1939. *Bibl. Sci. Ind. Reports 4,* 621 (Feb. 14, 1947). 3 pp. Price: $1.00 (Microfilm or Photostat).

Colors of extreme fastness on cellulose fibers or mixtures thereof with animal fibers utilize water-soluble pyrazolone azo dyes which contain at least one diazotizable amino group and at least one grouping capable of form-

ing metal complexes, but which lack a hydroxy group enabling coupling. They are applied to the fiber, diazotized and developed by alkaline treatment. The colors obtained are treated with agents giving off metal. Four examples of the method are given, and 7 starting components, including their chemical formulas and coloring properties, are listed. TTD: 4-48

Fast colors. Method for producing fast colors. I. G. Farbenindustrie A. G. (Patent application I 65339 IVd/8m). PB 31303, Aug. 1939. *Bibl. Sci. Ind. Reports 4,* 622 (Feb. 14, 1947). 4 pp. Price: $1.00 (Microfilm or Photostat).

Colors, fast on cellulose fibers or mixtures thereof with animal fibers, were achieved by using water-soluble azo dyes lacking groups capable of forming metal complexes and containing as coupling component 2,5-aminonaphthol-7-sulfonic acid (or its derivatives and substitutes), and at least one N: $NRNH_2$ group where R is an aromatic radical. These dyes are applied to the fiber, and the dyed materials are then treated with mixtures of Co salts and oxidizers. Post-treatment of the colors in slightly acid solution at elevated temperature is advised. Three examples. TTD: 4-48

Fast colors. Production of fast colors. I. G. Farbenindustrie A. G. (Patent application I 66569 IVd/8m). PB 31415, Feb. 1940. *Bibl. Sci. Ind. Reports 4,* 631 (Feb. 14, 1947). 5 pp. Price: $1.00 (Microfilm or Photostat).

Fast colors on animal fibers or natural or artificial cellulose fibers are obtained by using secondary diazo dyes of the chemical constitution:

A—B—CNXY

A stands for a 1-amino-5-hydroxynaphthalene radical, B for an amine of the benzene or naphthalene series coupled in p-position to the amino group, C for amino naphthol sulfonic acid coupled on the naphthol side of the nucleus, X is H of alkyl and Y is acyl. The color components have to be chosen in such a manner that the complete dye contains a minium of 2 groups imparting solubility. After applying the diazo dyes to the fibers, the colors obtained are developed with water-soluble diazo compounds, containing at least one nitro group, but lacking SO_3H or COOH groups; 3 examples. TTD: 4-48

Fast dyes. Process for preparing fast dyes. Aceta G. m.b.H. (Patent application A 79544 IVa/8m). (I. G. Farbenindustrie A. G.). T. H. K. report. PB L 62987, May, 1936. 13 pp. *Bibl. Sci. Ind. Reports 5,* 340 (Apr. 25, 1947). Price: $1.00 (Microfilm or Photostat).

This application is concerned with the production of fast dyeing upon fibers and fiber-like shapes. Hex-

avalent chromium compounds are applied to fibers composed of organophilic high polymers with strong basic groups. These chronium compounds may be applied at any time in the treating process. The fibers are then completely dyed with chrome dyes. TTD: 4-48

Nonfading color. Process for enhancing the nonfading qualities of colored material which has been treated with titanium dioxide. I. G. Farbenindustrie A. G. (Patent application I 58875 IVb/22b). T. H. K. report. PB L 58528, Aug. 1937. 3 pp. *Bibl. Sci. Ind. Reports 5,* 334 (Apr. 25, 1947). Price: $1.00 (Microfilm or Photostat).

The titanium dioxide used for the above purpose is obtained by reacting it with melts or solutions of water-insoluble salts of higher fatty acids with at least 8 C atoms. Such treatment with titanium dioxide is effective for rayon. TTD: 4-48

Predyeing treatment. Process for modifying the affinity of formed structures. Aceta G.m.b.H. (Patent application A 78463 IVa/8m). T. H. K. report. PB L 62986, Feb. 1936. 7 pp. *Bibl. Sci. Ind. Reports 5,* 340 (Apr. 25, 1947). Price: $1.00 (Microfilm or Photostat).

Fibers and shaped aggregates are treated prior to dyeing with acids dyes, with alkylene oxides, their analogues or ring-isologues, or derivatives of same. TTD: 4-48

Vat dyeing. Processing procedures for modern yarn dyeing. Robt. W. Joerger, Franklin Process Co. *Textile Industries 111,* No. 3, 72, 74, 76, 79, 143 (Mar. 1947).

The application of vat dyes in modern yarn dyeing is discussed with details of their properties, preparation, and the principles involved. TTD: 4-48

Washable dyes. Process for improving washable dyes for textiles. I. G. Farbenindustrie A. G. (Patent application I 60061 IVd/8m). T. H. K. report. PB L 62907, Dec. 1937. 3 pp. *Bibl. Sci. Ind. Reports 5,* 334 (Apr. 25, 1947). Price: $1.00 (Microfilm or Photostat).

The dyed textile are aftertreated in a bath that contains a small amount of a product obtained by reacting polyalkylene amines with dicyandiamide. TTD: 4-48

Vat dyeing. Process for dyeing regenerated cellulose combed sliver laps with vat or sulfur dyes. Lenssen, Chemische Fabrik Grünau, A. G., Berlin-Grünau, May 29, 1942. Ger. P. 721 216. *Bibl. Sci. Ind. Reports 4,* 740 (Feb. 21, 1947).

The windings are first treated with alkaline aqueous suspensions of vat or sulfur dyes. This is done in a

circulating bath at elevated temperature and under increased pressure. TTD: 4-48

Printing VII 3

Discharge printing. Discharge printing process. I. G. Farbenindustrie A. G. (Patent application I 65764 IVd/8n). PB 31386, Oct. 1939. *Bibl. Sci. Ind. Reports 4,* 629 (Feb. 14, 1947). 6 pp. Price: $1.00 (Microfilm or Photostat).

Fast white and colored discharge prints can be obtained on textiles which are dyed with dischargeable dyes by use of suitable printing pastes containing pigments and fillers for the adhesive fixation of these pigments. Eight examples. As fixatives, aziridine carboxamide derivatives (PB 31384) may be used. TTD: 4-48

New dye. Britain scores again with new dyestuff discovery. Anon. *Textile J. Australia 22,* 811 (Jan. 1948).

A discussion of an entirely new dye, Alcian Blue 8GS, which is suitable for printing textiles, especially cotton, and gives bright turquoise shades. Its fastness properties are comparable to vats, Brenthols and Soledons, and it is easy to apply and highly efficient. TTD: 4-48

Printing. Heating pad aids fabric printing. Anon. *Textile Industries 111,* No. 3, 115 (Mar. 1947).

A waterproof, highly flexible, conductive rubber, electric heating unit for use as an ink-drying medium in the fabric printing industry is briefly described. TTD: 4-48

Printing. Method for producing printing effects. I. G. Farbenindustrie A. G. (Patent application I 65797 IVd/8n). PB 31346, Oct. 1939. *Bibl. Sci. Ind. Reports 4,* 626 (Feb. 14, 1947). 8 pp. Price: $1.00 (Microfilm or Photostat).

On natural or regenerated cellulose fibers white and colored effects can be achieved on the dyed material if water-soluble azo dyes are reacted on the fiber with chromates, Co salts or mixtures of Co salts and oxidizing agents such as chromates, H_2O_2, persulfates, or perborates. Formation of a true dye is prevented by using printing pastes which contain alkaline reducing agents before the treatment with the metal salts. As carrier of the alkali in these pastes, hydroxyethylamines are used. TTD: 4-48

Printing. Method for producing a damask effect on vegetable and synthetic fabrics. I. G. Farbenindustrie A. G. (Patent application I 52154 IVa/8n). T. H. K. report. PB L 62879, Apr. 1935. 3 pp. *Bibl. Sci. Ind. Reports 5,* 336 (Apr. 25, 1947). Price: $1.00 (Microfilm or Photostat).

Concentrated urea solutions, preferably with an admixture of organic acids and copper salts, are printed on the materials, which are then dried and heated with vaporized formaldehyde. TTD: 4-48

Printing films. Plastic film printing. Ralph A. Nelson, Velveray Corp. *Am. Dyestuff Reptr. 36,* 328-9 (June 16, 1947).

Printing on supported and unsupported plastic films is briefly discussed. Printing on supported films (those having a textile fabric or paper backing usually) is carried out either by printing the fabric before applying the plastic or by printing on the plastic after it has been applied to the backing. TTD: 4-48

Resist prints. Process for producing colored resist prints. I. G. Farbenindustrie A. G. (Patent application I 65732 IVd/8n). PB 31385, Oct. 1939. *Bibl. Sci. Ind. Reports 4,* 629 (Feb. 14, 1947). 7 pp. Price: $1.00 (Microfilm or Photostat).

By use of resist printing pastes which contain pigments and fillers for an adhesive fixation of these pigments, fibers can be colored directly by coupling diazotized amines with such components as are used for the preparation of ice colors. Seven examples. As fixatives, aziridine carboxamide derivatives (PB 31384) may be used. TTD: 4-48

Resist prints. Process for producing colored resist prints. I. G. Farbenindustrie A. G. (Patent application I 65770 IVd/8n). PB 31387, Oct. 1939. *Bibl. Sci. Ind. Reports 4,* 629 (Feb. 14, 1947). 8 pp. Price: $1.00 (Microfilm or Photostat).

Fast colored resist printings are obtained in colorations or printings with oxidation colors by use of resist printing pastes which contain pigments and fillers for the adhesive formation of the pigments. Nine examples. As fixatives, aziridine carboxamide derivatives (PB 31384) may be used. TTD: 4-48

Screen printing. Methods in screen printing. Fred F. Jacobs, General Dyestuff Corp. *Rayon Textile Monthly 28,* 607-9 (Nov. 1947).

Machine and screen printing methods are reviewed, particularly with respect to the mechanization of the latter process. TTD: 4-48

Screen printing colors. New textile colors for screen printers. Georgia W. Leffingwell & Olive S. Linkletter.* *Rayon Textile Monthly 28,* 659-60 (Dec. 1947).

Pigment colors are discussed, particularly with respect

to the resins most effective in binding the pigments to the cloth. Of over 1,000 pigments available, less than 100 have proven suitable for textile printing.

TTD: 4-48

Drying printed material. Device for drying printed materials by means of flat patterns on a printing table. Friedrich Haas, Maschinenfabrik K. G. Ohrt & Ulrichs. Ger. P. 709 851, Aug. 28, 1941. *Bibl. Sci. Ind. Reports 4,* 544 (Feb. 7, 1947).

Drawing included. TTD: 4-48

Measurement and defects VII 4

Color matching. Illumination for textile color matching. Frank J. O'Neil, Pacific Mills. *Am. Dyestuff Reptr. 36,* 329-30 (June 16, 1947).

Problem No. 13 of the Inter-Society Color Council is discussed and the results are briefly summarized.

TTD: 4-48

Color order systems. Color order systems. Carl E. Foss. *Paper Trade J. 125,* No. 23, 149-52 (Dec. 4, 1947).

Color order systems are classified in 3 general categories and briefly considered: (1) color appearance (developed by visual appraisal), (2) color mixture (developed by instrumental methods), and (3) colorant mixture (developed by compounding materials). TTD: 4-48

Color specification. Description and specification of color. Ralph M. Evans, Eastman Kodak Co. *Paper Trade J. 125,* No. 21, 49-53 (Nov. 20, 1947).

The nature of color is briefly described and various color systems are discussed, particularly the I. C. I. and the Munsell. TTD: 4-48

Color specifications. Interrelation of color specifications. Dorothy Nickerson, USDA Production and Marketing Administration. *Paper Trade J. 125,* No. 19, 153-71 (Nov. 6, 1947).

Color standards, measurements, and systems are reviewed in some detail, particularly with respect to graphing I. C. I. data and formulas developed for color tolerance specification. TTD: 4-48

Unevenness in printing. Suggestions for avoiding color unevenness in textile printing. J. H. Downey. *Textile Age 11,* No. 5, 78-80, 82-3 (May, 1947).

Three factors likely to cause unevenness of color are discussed: misuse of plain or pad rollers in blotch printing, doctor blade settings, and adjustments to printing foundations on the bowl of the printing machine. TTD: 4-48

Proofing VIII

Coatings. Process for producing of adhesive coatings. I. G. Farbenindustrie A. G. (Patent application I 66942 IVd/8n). PB 31452, Apr. 1940. *Bibl. Sci. Ind. Reports 4,* 634 (Feb. 14, 1947). 6 pp. Price $1.00 (Microfilm or Photostat).

This is the second addition to German Patent Application I 65453 IVd/8n (see PB 31311 above). By use of emulsions which contain urea-HCHO, condensates coatings which adhere strongly are obtained. According to the new invention, solutions of emulsions of polymeric compounds and aminotriazine-aldehyde condensates (if necessary condensed in the presence of mono- or polyvalent alcohols) are placed on the objects to be coated. Pigments may be included. Several examples are given. TTD: 4-48

Creaseproofing. Process for increasing the creaseproof quality of textiles. I. G. Farbenindustrie A. G. (Patent application I 67111 IVd/8k). PB 31476, May, 1940. *Bibl. Sci. Ind. Reports 4,* 636 (Feb. 14, 1947). 4 pp. Price: $1.00 (Microfilm or Photostat).

Creaseproof qualities of textiles could be increased by a treatment with sulfamides and HCHO. This treatment can be given with both of these chemicals in one bath or separately, as by an after treatment with HCHO vapor. Usual sizing agents may be used also.

TTD: 4-48

Crease resistance. Textile impregnating film, applicable by hot iron. Hagedorn. (I. G. Farbenindustrie. Kuko-Report, 7th meeting). PB 42411, June, 1931. 4 pp. *Bibl. Sci. Ind. Reports 4,* 475 (Feb. 7, 1947). Price: $1.00 (Microfilm or Photostat).

Thin films which are liquefied by the temperature and pressure of the hot flat iron permeates textiles and makes them crease-resistant. Cellulose laurate, called "Cellorit," proved to be the best material. It is laid on parchment paper, but it is necessary to have between the "Cellorit" and the paper a thin nonadhesive layer, which makes it possible easily to remove the paper when impregnation is completed. Cellulose acetate-butyrate is used for this inner layer. The cellulose laurate layer may contain other substances such as plasticizers and dyes. It will penetrate more or less deeply according to composition. The method may also be used for transfer of any kind of design, also for water- and gasproofing. TTD: 4-48

Flammable fabrics. Flammable fabrics and their evaluation. F. Bonnet, Am. Viscose Corp. *Am. Dyestuff Reptr. 36,* 303-4 (June 2, 1947).

Recent legislation concerning the flammability of fabrics stresses the need for a reliable testing method by which to ascertain the rate of burning of any fabric, and the AATCC method is discussed. TTD: 4-48

Fluorostearyl alcohol. Method for preparation of fluorostearyl alcohol. I. G. Farbenindustrie A. G. (Patent application I 65616 IVd/12o). PB 31327, Sept. 1939. *Bibl. Sci. Ind. Reports 4,* 624 (Feb. 14, 1947). 2 pp. Price: $1.00 (Microfilm or Photostat).

Fluorostearyl alcohol can be obtained by the reaction of gaseous HF with oleyl alcohol which may be dissolved in an inert solvent, such as CH_2Cl_2 or CCl_4. Polymerization does not take place. The substance is useful as a textile aid and as a pest exterminator. See also PB 31328. TTD: 4-48

Fluorostearyl alcohol. Method for the preparation of fluorostearyl alcohol. I. G. Farbenindustrie A. G. (Patent application I 65616 IVc/12o). PB 31328, Sept. 1939. *Bibl. Sci. Ind. Reports 4,* 624 (Feb. 14, 1947). 2 pp. Price: $1.00 (Microfilm or Photostat).

The method described in the original application uses gaseous HF (see PB 31327). This application claims that liquid HF may be used. It may contain water. TTD: 4-48

Insectproofing. Insecticides. I. G. Farbenindustrie A. G. (Patent application I 66268 IVc/45 1). PB 31391, Jan. 1940. *Bibl. Sci. Ind. Reports 4,* 629 (Feb. 14, 1947). 5 pp. Price: $1.00 (Microfilm or Photostat).

Volatile aromatic hydrocarbons or their halogen derivatives are reacted with S halide and yield nonvolatile insecticides which can be used for the protection of organic materials such as wood, textiles, etc. TTD: 4-48

Mothproofing. Mothproofing of woolen materials in Europe (Bound with: Protection of furs, wool, silk, and related materials from destruction by moths and other insects, by M. L. Crossley; and The Major Textile Pest—"the moth" by H. Reumuth). Werner von Bergen. PB A 50760, May 1947. 27 pp. (Available from Textile Research Inst., Inc., 10 E. 40th St., New York, N. Y., price $1.50). *Bibl. Sci. Ind. Reports 5,* 95 (Apr. 11, 1947).

The article by Werner von Bergen, Director of Research for the Forstmann Woolen Co., outlines the methods for the mothproofing of woolen materials in Germany and England. For permanent proofing, various brands of Eulans (I. G.) and Mitin FF (Geigy Co., Ltd.) are used. Other materials, while not giving

permanent results, are also used, these being inorganic fluorides, pentachlorophenol and nitro compounds. Volatile substances, such as para-dichlorobenzene and naphthalene, are used in method 2. Method 3 covers the use of sprays containing insecticides such as pyrethrum dissolved in a volatile solvent. The use of DDT and Gammexane is also considered. This article contains no data on the latter. The article by M. L. Crossley describes the use of various types of I. G. products, known as Eulans, for the mothproofing of woolens. The article describes the properties of these Eulans, and gives their formulas and manufacturing procedure. It is part of a fuller report by M. L. Crossley entitled, "The Protection of Textiles and Related Products From Damage by Mold, Fungi, Insects and Flame," PB 22338, abstracted in Vol. 1, p. 1139 of this bibliography. Included is a translation of a document by H. Reumuth, microscopist at I. G. Höchst, on the clothes moth. This document contains the life history and habits of the clothes moth together with the mechanics and physiology of its digestive process. Nine photographs are reproduced in color. In the opinion of the investigators, this document goes beyond anything published heretofore in this country, particularly in its morphological aspects and for that reason should be of exceptional interest throughout the textile industry and the retail trade. This article contains an extensive bibliography including German and American references. TTD: 4-48

Proofing. Process for protecting fibers and fabrics made therefrom against deterioration by the atmosphere, water and microorganisms. I. G. Farbenindustrie A. G. (Patent application I 53898 IVc/8k). PB L 62882, Dec. 1935. 5 pp. *Bibl. Sci. Ind. Reports 5,* 336 (Apr. 25, 1947). Price: $1.00 (Microfilm or Photostat).

The process consists in treatment of the fibers with water-insoluble chlorinated organic compounds, particularly those of a resinous character, which contain at least 30% chlorine. These compounds may be employed alone or mixed with other compounds which contain or do not contain chlorine. As chlorine-containing compounds are mentioned polyvinyl chlorides, especially the unchlorinated type, copolymers of polyvinyl chloride, chlorinated hexachloroethane and naphthalene. TTD: 4-48

Proofing textile preservatives. I. G. Farbenindustrie A. G. (Patent application I 70464 IVd/55b). PBL 62904, Sept. 1941. 2 pp. *Bibl. Sci. Ind. Reports 5,* 334 (Apr. 25, 1947). Price: $1.00 (Microfilm or Photostat).

The original patent claims the preservation of textiles with complex salts of the heavy metals and biguanides of

high molecular weight. This application claims the subsequent impregnation with film-forming substances of textiles treated in the above described method. This document bears the number Wo. No. 21341; for Wo. No. 2134 see PB 62903. TTD: 4-48

Proofing. Survey of the German heavy textile proofing industry. D. J. M. Smith and others. BIOS Final Report 698, item 22, 31, Aug. 1946. 21 pp. PB A 45250. *Bibl. Sci. Ind. Reports 5,* 130-1 (Apr. 11, 1947). Price: Microfilm $1.00; Photostat $2.00.

The preparatory processes, rotproofing, waterproofing, fireproofiing, preparation of tents and tarpaulins, and technical control and research are considered. No firm was found which engaged solely in proofing. Most of the firms carried out weaving, dyeing, and proofing and making up (fabrication of items such as tents and tarpaulins). In general, the yarns employed were spun from flax, true hemp, cottonized bast fibers, and rayon staple, and continuous fibers. There was no evidence of research into fabric construction suitable for water holding or waterproofing purposes. It was evident that the industry relied very largely upon proprietary products marketed by I. G. Farbenindustrie A. G. for all types of proofing. The more important of the firms visited are dealt with in great detail in the appendices. TTD: 4-48

Protecting against acid. Production of clothing for protection against nitric acid. Steinberger. PB A 56227, Mar. 1943. *Bibl. Sci. Ind. Reports 5,* 131 (Apr. 11, 1947). Price: Microfilm $1.00; Enlargement print $1.50.

Cloth made of plastic fibers, cellophane impregnated with a certain sealing agent protect, well against nitric acid. It is preferable to impregnate the cloth before it is made into suits. TTD: 4-48

Rayon stabilization. Progress in new rayon fabric stabilization process. Anon. *Rayon Textile Monthly 28,* 597-8 (Nov. 1947).

The Sanforset (BR-1) process, by which rayon fabrics may be stabilized dimensionally through use of glyoxal is discussed further (for previous article, see TTD: *4,* 379); and 12 finishing plants licensed to employ this process are listed.
HAM TTD: 4-48

Rotproofing. Rendering fabrics proof against microorganisms. I. G. Farbenindustrie A. G. (Patent application I 55294 IVc/8k) PB L 62888, June, 1936. 4 pp. *Bibl. Sci. Ind. Reports 5,* 335 (Apr. 25, 1947). Price: $1.00 (Microfilm or Photostat).

The process uses a treatment with copper soaps. The copper soaps are precipitated on and within the fiber from alkali- or amine-soluble complex copper compounds and soluble soaps. TTD: 4-48

Rotproofing. Protection of textiles from microbial attacks. Arthur Minich, Nuodex Products Co., Inc. *Rayon Textile Monthly 28,* 610-11, 661-2 (Nov., Dec. 1947).

The mildewing and rotting of textile materials through the action of fungi and bacteria are described, and the properties of an ideal microbicide (*i. e.,* a compound effective against both fungi and bacteria) are outlined.
HAM TTD: 4-48

Shrink resistance. Use of enzymes in production of shrink-resistant wool fabrics. Christopher S. Jones. *Textile Age 11,* No. 8, 52, 54-6, 58 (Aug. 1947).

A biochemical method, using proteolytic enzymes, of shrinkproofing wool fabrics is discussed; it is based on the theory that alteration in the surface properties of wool fibers is produced by the breakdown of the polypeptide network. TTD: 4-48

Shrinkproofing wool. Protonized process for shrinkproofing wool. Anon. *Textile Industries 111,* No. 5, 135, 137 (May, 1947).

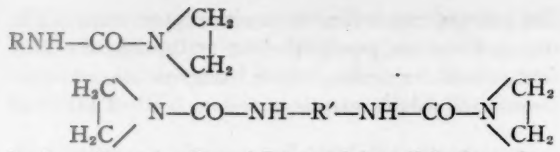
The Protonized process is a controlled wet-chlorination process using Alrochlor, a reagent which stabilizes the hypochlorite bath. Wool and its blends are rendered shrink-resistant by this process without impairing their hand, strength, or resiliency. TTD: 4-48

Water repellency. Water repellency of textle fabrics. *Textile Industries 111,* No. 6, 137 (June, 1947).

A brief survey of the work of the textiles laboratory of the National Bureau of Standards on methods of testing water repellency. TTD: 4-48

Waterproof coatings. Process for the production of coatings. I. G. Farbenindustrie A. G. (Patent application I 65699 IVd/8 1). PB 31384, Sept. 1939. *Bibl. Sci. Ind. Reports 4,* 628-9 (Feb. 14, 1947). 5 pp. Price: $1.00 (Microfilm or Photostat).

Water- and rubproof coatings on fibrous materials such as leather, artificial leather, vulcanized fiber, and pasteboard are prepared as follows: The materials furnished with coatings of proteins, water-soluble cellulose compounds or artificial resins which, if necessary, contain also pigments, dyes, plasticizers, and resins are treated with compounds of the general formulae:



In these formulae R and R′ stand for aliphatic or isocylic groups. The homologues and derivatives of these compounds may also be used. TTD: 4-48

Weatherproofing. Weather protective treatments for cotton duck. Southern Section of AATCC. *Textile Age 11,* No. 11, 66-8; *Textile Industries 111,* No. 11, 128C-128D (Nov. 1947).

Results of a study of weather protective treatments for cotton duck show that resin-bound pigments give the best protection to the material. TTD: 4-48

Wool treatment. Method for protecting animal fibers being treated with liquids. I. G. Farbenindustrie A. G. T. H. K report. PB L 62943, Mar. 1931. 2 pp. *Bibl. Sci. Ind. Reports 5,* 338 (Apr. 25, 1947). Price: $1.00 (Microfilm or Photostat).

Protective action on wool is claimed by the addition of aminoacetic acid, or its salts, to the liquids. The legibility of the document is poor. TTD: 4-48

Wrinkleproof material. Method for making natural and synthetic fibrous materials wrinkleproof. I. G. Farbenindustrie A. G. (Patent application I 49447 IVa/8k). PB L 62869, Apr. 1934. 4 pp. *Bibl. Sci. Ind. Reports 5,* 337 (Apr. 25, 1947). Price: $1.00 (Microfilm or Photostat).

The materials are treated with compounds able to form resins by condensation with formaldehyde. After drying, the materials thus impregnated are exposed to formaldehyde vapors at temperatures above 100°. A solvent for formaldehyde which does not dissolve the other component may be used. TTD: 4-48

Waterproof clothing. Ventilation for waterproof clothing. Virl. Klepper-Werke. Ger. P. 704 908, Apr. 9, 1941. 2 pp. *Bibl. Sci. Ind. Reports 4,* 279 (Apr. 18, 1947). TTD: 4-48

Waterproof clothing. Ventilation for waterproof clothing. Virl. Klepper-Werke. Ger. P. 706 363, May 24, 1941. 2 pp. *Bibl. Sci. Ind. Reports 5,* 280 (Apr. 18, 1947).

Supplement to Ger. P. 704 908. Drawing included. TTD: 4-48

Waterproof clothing. Ventilation for waterproof clothing. Hohl, Oskar. Ger. P. 712 309, Oct. 16, 1941. 2 pp. *Bibl. Sci. Ind. Reports 5,* 184 (Apr. 11, 1947).

Drawing included. TTD: 4-48

Waterproof clothing. Waterproof clothing article. Bruno Beyer. Ger. P. 716 168, June 24, 1942. *Bibl. Sci. Reports 4,* 544 (Feb. 7, 1947). 3 pp.

Drawing included. TTD: 4-48

Waterproof clothing. Ventilation for waterproof clothing. Virl. Klepper-Werke. Ger. P. 720 218, Apr. 29, 1942. 4 pp. *Bibl. Sci. Ind. Reports 5,* 280 (Apr. 1947).

Drawings included. TTD: 4-48

TESTING AND ANALYSIS IX

Nylon yarn identification. Identification of nylon yarn. Anon. *Rayon Textile Monthly 28,* 655 (Dec. 1947).

Heat, flame, and solubility tests are outlined. TTD: 4-48

Testing. Report of the subcommittee on the coordination of methods for testing service materials (Report 35). U. S. Tropical Deterioration Administrative Committee. PB L 58093, Mar. 1945. *Bibl. Sci. Ind. Reports 5,* No. 1, 6 (Apr. 4, 1947).

Work done at the University of Pennsylvania covering the period of March 1-31, is the main subject of this report. It deals primarily with evaluation of several test methods for textile decomposition, using test samples obtained from the AATCC as follows: (1) mildew resistance test using Anniger and heat sterilized samples (2) rot resistance tests using *Chaetomimum globosum* and unsterilized samples, using *Metarrhizium glutinosum* and unsterilized samples using *Trichoderma sp.* and unsterilized samples, and using inoculum of mixture of pure cultures and unsterilized samples; and (3) soil suspension tests. TTD: 4-48

Physical properties IX 1

Burst testing. Burst test for rubber and synthetics. Austin Bryant, Grove Regulator Co. *ASTM Bull.* No. 148, 64-8 (Oct. 1947).

Apparatus using air pressure to burst test specimens is described. No correlation was obtained between instantaneous burst and tensile strength. However, results obtained by a time-burst apparatus are a valuable measure of the extent to which extensible materials, impervious to air, will hold up under constant pressures. Unlike the instantaneous burst tester, the time-burst machine maintains a lower but constant pressure for a time sufficient to produce rupture.
HAM TTD: 4-48

Equipment maintenance. Maintain testing equipment. Horace L. Pratt. *Textile Industries 111,* No. 3, 54-6, 139 (Mar. 1947).

Maintenance notes on various pieces of testing equipment are given. TTD: 4-48

Fabric weight. Short method for control of finished weights. Frederic A. Prisley, Watson-Park Co. *Am. Dyestuff Reptr. 36,* 302 (June 2, 1947).

In order better to maintain fabrics at uniform specified weights, a relatively simple method of control is suggested based on the observation that yarns were off count because of moisture variation when they were spun. TTD: 4-48

Moisture regain of nylon. Moisture regain of nylon. Anon. *Rayon Textile Monthly 28,* 600 (Nov. 1947).

It is emphasized that the relative humidity of the atmosphere should be maintained at as high a level as is consistent with good performance when handling nylon inasmuch as its low moisture regain, compared with rayon, silk or cotton, makes nylon yarn more susceptible to the accumulation of static electricity. TTD: 4-48

Static charges on nylon. Static electricity encountered with nylon. Anon. *Rayon Textile Monthly 28,* 601 (Nov. 1947).

A brief note on some attachments which may be used to neutralize static charges, also a processing compound. HAM TTD: 4-48

Testing fabrics. Instruments test hand of fabrics. Anon. *Textile Industries 111,* No. 3, 66-7, 145 (Mar. 1947).

Instruments, such as the friction meter, Planoflex, etc., for testing the physical properties affecting the hand of fabrics are discussed. These instruments eliminate any guess work or personal opinions in testing. TTD: 4-48

Testing viscosity. Instrument controls viscosity of size. Anon. *Textile Industries 111,* No. 5, 137 (May, 1947).

A recording viscometer, which operates on a patented plunger principle, is used to control the uniformity of sizing and automatically controls the viscosity of sizing materials. TTD: 4-48

Wrinkle tester. New wrinkle recovery tester. Anon. *Rayon Textile Monthly 28,* 596 (Nov. 1947).

The Monsanto wrinkle tester evaluates wrinkles resistance in terms of degrees of recovery, 180° indicating complete resistance to wrinkling.
ASJ TTD: 4-48

Yarn testing. New model Tensometer and Densimeter. Anon. *Textile Industries 111,* No. 3, 116 (Mar. 1947).

Two pocket-size instruments, the Tensometer and Densimeter, for checking yarn tension and package density in winding, warping, weaving, etc., are noted. TTD: 4-48

Chemical analysis IX 2

Cotton degradation. Fundamental aspects of prevention of microbiological degradation of cotton textiles. R. G. H. Siu, QMC Biological Laboratories. *Am. Dyestuff Reptr. 36,* 320-3 (June 16, 1947).

Four methods of preventing degradation are briefly reviewed: (1) by resin impregnants, (2) by cell toxicants, (3) by enzyme inhibitors, and (4) chemical modification of cellulose molecules. TTD: 4-48

Surface-active agent. Quantitative analysis of Igepon T. D. A. Shiraeff, General Dyestuff Corp. *Am. Dyestuff Reptr. 36,* 313-14 (June 16, 1947).

A detailed procedure for the analysis of sodium salts of oleyl methyl tauride (Igepon T) is presented. TTD: 4-48

TEXTILE MILLS X

Mill construction. Many new features in textile mill construction. Henry Miedendorp. *Rayon Textile Monthly 28,* 647-9 (Dec. 1947).

Desirable features of modern mill construction are considered, including the proper use of color, windowless-construction, roofs, etc. TTD: 4-48

Buildings, machinery, power X 1

Cleaning knitting machines. Keep mills clean. Don Numan. *Textile Industries 111,* No. 6, 190, 192, 196 (June, 1947).

Practical suggestions on cleaning knitting machines with a portable blower are given. TTD: 4-48

Cleaning unit. Oakite steam cleaning unit. Anon. *Textile Industries 111,* No. 5, 139 (May, 1947).

The Oakite vapor steam cleaning unit is described. It may be used for cleaning floors, ceilings, walls, and textile machinery. TTD: 4-48

Cloth rolls. Aluminum cloth rolls facilitate starting. Anon. *Textile Industries 111,* No. 4, 127 (Apr. 1947).

A longitudinal slot is provided to facilitate the starting of the cloth in the roll. TTD: 4-48

High pressure condensates. High pressure condensate drainage cuts drying time and fuel costs. Frederick R. Thus. *Textile Age, 11,* No. 12, 70-2 (Dec. 1947).

A high pressure condensate return system (installed in Reading Dyeing Co.) increased the heat transfer rates of the steam-using equipment. Higher dyeing and drying temperature, more uniform heating, and fuel savings have resulted. TTD: 4-48

Hosiery mill. Today's full-fashioned hosiery mill. H. V. Biberstein, Biberstein & Bowles. *Textile Industries 111,* No. 5, 184, 189 (May, 1947).

A discussion of the machinery, air conditioning, lighting, construction details, and dyehouse found in a modern hosiery mill. TTD: 4-48

Instrumentation. Progress in instrumentation. Richard Polluck, Sr., Brown Instrument Co. *Textile Industries 111,* No. 6, 82 (June, 1947).

The advantages of instrumentation in the textile industry and instrument maintenance are reviewed. TTD: 4-48

Machinery. Textile machinery. Mapleton House, Publishers, 5415 17th Ave., Brooklyn 4, N. Y.

The following reports are available as a set for $8.00 or separately at the price quoted: (1) Machinery for drying silk, rayon and cotton in piece form—fine worsted factory—high speed winding machines and sizing machines for cotton, wool, and rayon, by H. Charlesworth and others, $3.00. PB 34036, Vol. 2, p. 880, (2) Processing of spun rayon yarn in Germany, by P. Chapuis, $1.00 PB 19678, Vol. 1, p. 1430, (3) Textile finishing machinery for cotton and rayon piece goods, by H. Kay, $2.00. PB 28750, Vol. 2, p. 618, (4) Jacquard machines for looms weaving figured cloth, by H. Hardaker, $1.00 (reports 3 and 4 have the same PB number but have been published as separate reports, (5) Loom making in Germany, by O. Porter, $2.00. PB 28749, Vol. 2, p. 619, (6) Textile machinery accessories, by R. S. Fearnehough, 75¢ (reports 5 and 6 have the same PB number but have been published as separate reports), (7) German textile dyeing, drying and finishing engineers, by Emile B. Bates, 75¢. PB 25592, Vol. 2, p. 149, (8) Producing durable embossing of rayons and a machine for coloring embossed fabrics (with coloring formulas by I. G. Farbenindustrie) by Glenn D. Jackson, Jr. 75¢. PB 13758, Vol. 1, p. 963, (9) German shuttle block industry, by P.M.C. Lacey and others, $1.50. PB 18937, Vol. 1, p. 1328, (10) German circular lace braiding machine building industry, by E. B. Hancock, $1.00. PB 19683, (11) Deutsche Spinnereimaschinebau A. G. (investigation of leading factory) by J. L. Truslow & Robt. M. Jones, $1.00. PB 6360, Vol. 1, p. 422, (12) Manufacture of non-woven or compressed

woolen felt in Germany, by Raymond R. Stevens, $1.00. PB 3466, Vol. 1, p. 281, (13) German pile fabric for upholstering and wearing apparel, by John J. Repp, Jr., $1.25. PB 3881, Vol. 1, p. 387, (14) Punching of spinnerets, I. G. Farben, Agfa Werk, by L. H. Smith & J. J. Schilthuis, $1.00. PB 1632, Vol. 1, p. 129. *Bibl. Sci. Ind. Reports 5,* (on back of first page) (Apr. 18, 1947). TTD: 4-48

Mill floors. Mill floor problems. C. J. McCormack. *Rayon Textile Monthly 28,* 616 (Nov. 1947).

It is suggested that the resurfacing material put on old floors should be adequate although cheaper than replacing the floors. It is pointed out that such material has been used to resurface the floors of railroad coaches with good results. TTD: 4-48

Power and heat. Production and use of power and heat in textile manufacturing. Henry Miedendorp. *Rayon Textile Monthly 28,* 565-7 (Oct. 1947).

Fuel conservation through efficient insulation and utilization of excess heat from processing is discussed. TTD: 4-48

Roving frame lubrication. Overall lubrication from one central point. Anon. *Saco-Lowell Bull. 19,* No. 1, 13-24 (June, 1947).

An illustrated description of the Bijur system of central metered lubrication which services all the principal bearings of a roving frame and measures the precise amount of oil required at each bearing. The system consists essentially of 3 main elements: a lubricator, a series of meter units, and a branched distribution system. TTD: 4-48

Sound conditioning. Acoustical ceiling improves conditions in weaving room. Geo. Ladd. *Textile Age 11,* No. 8, 46, 48, 51 (Aug. 1947).

Installation of acoustical tile in the ceiling of the weave room and mounting of the looms on felt cushions materially reduced the noise in a new weave room (Macon Textiles, Inc.). TTD: 4-48

Static eliminator. New type static eliminator is finding many mill applications. Anon. *Textile Age 11,* No. 9, 56-8 (Sept. 1947).

Several different installations of a radio-active static eliminator which has no moving parts and costs nothing to operate, are described. TTD: 4-48

Steam demands. Mechanical stoker enables old boilers to meet steam demands. Geo. Ransom. *Textile Age 11,* No. 11, 88-90 (Nov. 1947).

A mechanical stoker installation (at Sulloway Hosiery Mills) to meet increasing process steam demands is described. TTD: 4-48

Vibration in mills. Reducing vibration damage in textile mill buildings. Chas. E. Crede, L. N. Barry Co., Inc. *Textile Age 11,* No. 4, 54, 56-8 (May, 1947).

Vibration problems connected with loom operations are due principally to two types of motion; the reciprocating movement of the lay and the picking action. Several possible solutions for these types of vibration are suggested. TTD: 4-48

Lighting and air X 2

Air filter. No. 7 air filter. Anon. *Saco-Lowell Bull. 19,* No. 1, 32-3 (June, 1947).

A brief note on the 2-bag unit air filter for filtering the air drawn from a cleaning and blending feeder with illustrations of accepted arrangement for preparing air for recirculation. TTD: 4-48

Wastes X 3

Waste reclamation. Textile waste reclamation (wool, rayon). Paul R. Whitaker & Walter Davy. BIOS Final Report 828, item 22, Nov. 1946; 9 pp. PB A 63624. *Bibl. Sci. Ind. Reports 5,* 132 (Apr. 11, 1947). Price: $1.00 (Microfilm or Photostat).

The methods, processes, machinery, etc., used in reclaiming textile waste in the British zone of Germany are covered. TTD: 4-48

Wool grease recovery. Industry of wool grease recovery in Australia. F. R. Eastwood. *Textile J. Australia 22,* 874-6, 878 (Jan. 1948).

A discussion of the centrifugal method and acid-cracking process for recovering crude wool grease from scouring liquors. TTD: 4-48

Hazards; operations; efficiency X 4

Fire hazards. Reducing the fire hazard. Anon. *Saco-Lowell Bull. 19,* No. 1, 28-9 (June, 1947).

Methods of reducing fire hazards in the opening and picking rooms by modern machinery and auxiliary equipment are reviewed. TTD: 4-48

Fire hazards. Fire and accident prevention is an important factor in textiles. Henry Miedendorp. *Rayon Textile Monthly 28,* 603-5 (Nov. 1947).

A general survey, in which it is noted that frequency rates on fires for large mills were 1/3 lower than for those of medium and small size but that the severity rate was higher for large mills. TTD: 4-48

Fork lift trucks. Lift trucks are finding many novel uses in textile mills. Anon. *Textile Age 11,* No. 6, 54, 56, 58, 60, 62 (June, 1947).

An illustrated description of the many uses of fork lift trucks for handling heavy materials. TTD: 4-48

Materials handling. Handling unit loads without pallets. Anon. *Textile Industries 111,* No. 3, 121 (Mar. 1947).

"Pul-Pac" is a combination of the fork-lift truck, with a flat steel plate serving in place of the forks, and a disposable load base of paper or other material to receive, lift and carry unit loads. TTD: 4-48

Materials handling. EPCO traction system. Anon. *Textile Industries 111,* No. 4, 127 (Apr. 1947).

Ball-bearing roller trackage for transporting rolls of cloth, bales of cotton, and other hard-to-handle materials has recently been made available. TTD: 4-48

Protection against lightning. Suggestions for protection of plants against lightning. Edw. Beck, Westinghouse Electric Corp. *Textile Age 11,* No. 9, 60-5 (Sept. 1947); *Textile Industries 111,* No. 12, 89-90 (Dec. 1947).

The nature of lightning is discussed and the possible damage it can cause reviewed. Protective measures are outlined. TTD: 4-48

Waste. Waste control and reduction. Ben H. Crawford, Southeastern Engineering Co. *Textile Industries 111,* No. 6, 77-9 (June, 1947).

An abstract of a paper on waste control and reduction presented at the National Textile Seminar. TTD: 4-48

Waste. Waste utilization. Wm. H. Jones, Railway Supply & Mfg. Co. *Textile Industries 111,* No. 6, 79-80 (June, 1947).

A discussion of waste in cotton mills and the research needed to find end-uses for the waste. TTD: 4-48

BASIC SCIENCES XI

Cellulose. Effects of urea on cellulosic textiles. South Central Section of AATCC. *Textile Age 11,* No. 11, 68-71 (Nov. 1947).

A discussion of an investigation of the effect of urea on cotton yarn during flameproofing and during mercerization. The effect of urea on the viscosity of cellulose solutions is also discussed. TTD: 4-48

Instruments. A "historical museum on paper" of American instruments. *Instruments 21,* 35-52, 54, 56, 58, 60, 62, 64, 66, 68, 70, 72, 74-5 128-48, 150, 152, 154, 156, 158, 160, 162, 164, 166, 168 248-50, 252, 254, 256, 258, 260, 262, 264, 266 (Jan.-Mar. 1948).

An interesting display of photographs, sketches, and brief commentaries, showing the development of Ameri-

can instruments from 1780 to 1943.
LCL TTD: 4-48

Mixing. Practical mixer technology. Emerson J. Lyons, Turbo-Mixer Corp. *Chem. Eng. Progress 44,* 341-6 (May, 1948).

Although progress has been made in applying rules to mixing, it is still an art. Experience has determined the characteristics of various installation designs. Sketches of mixers and their flow patterns are given to serve as guides in selection of equipment. Advantages and disadvantages are listed. Baffles have been used not only on liquids of low viscosity, but also on high viscosity liquids.
LCL TTD: 4-48

Moisture determination. Continual moisture determination in raw material. Anon. *Textil och Konfektion 4,* No. 9, 376-7 (Nov. 1947); *in Swedish.*

A moisture-measuring device, manufactured by A. G. Drytester, Lungern, Switzerland, is described. The system is based upon the fact that static electricity is produced in fibrous material when drying. Measurement of this electric charge gives a value of the degree of dryness. A boon connected to a voltmeter touches the running material and the deflection of the galvanometer needle indicates the amount of moisture in the material. TTD: 4-48

Properties of starch. Colloido-chemical properties of starch of particular interest to textile industry. Jens Jensen. *Tids. Textilteknik 5,* No. 11, 121-6 (Dec. 1947); *in Danish.*

A series of experiments dealing with the properties of various potato starches are described. The viscosity is here measured in a capillary viscometer, changes in the degree of swelling of the starch are studied by photoelectric determination of the transparency of the mass, and the power of adhesion by means of filter paper strips in a testing apparatus is mentioned. It was found that one surface-active substance reduced viscosity and degree of swelling while another did not, and that the effects were not the same in the cases of potato starch and wheat starch. A lowering of the degree of swelling reduced at the same time the power of adhesion of the starch mass. TTD: 4-48

Soiling and detergency. Studies in soiling and detergency. Piedmont Section of AATCC. *Textile Age 11,* No. 11, 64, 66; *Textile Industries 111,* No. 128D (Nov. 1947).

The investigation of a standard soil and its relationship to detergency evaluation shows that the type of soil, sample area, length of wash, washing temperature and

type of fabric affect soil removal from a fabric by any detergent. TTD: 4-48

TEXTILE RESEARCH XII

AATCC papers. Abstracts of papers to be presented at technical program. Anon. *Am. Dyestuff Reptr. 36,* 594-9 (Oct. 20, 1947).

Abstracts of 26 of the papers, presented at the AATCC National Convention, are given. TTD: 4-48

Control laboratory. Quality control laboratory installed by Reliance. Anon. *Textile Industries 111,* No. 4, 91 (Apr. 1947).

The laboratory (of the Reliance Mfg. Co.) is equipped to conduct all major physical and chemical tests. A brief description of the laboratory and its equipment is given. TTD: 4-48

Education and research. Melbourne Technical College. Anon. *Textile J. Australia 22,* 806 (Jan. 1948).

The Melbourne Technical College combines education and research by conducting classes in dye chemistry and by maintaining a service to the industry in the avoiding and correcting of dyeing and chemical processing faults. TDD: 4-48

German rayon industry. German rayon and staple fiber industry and allied engineering industry. A. J. Williams, $4.00. PB 34031, Vol. 2, p. 896. *Bibl. Sci. Ind. Reports 5,* (Apr. 18, 1947).
TTD: 4-48

German textile industry. German textile industry. H. Fisher and others. (BIOS Final Report 514, Item 22, 31). PB A 63696, Oct. 1945. 68 pp. *Bibl. Sci. Ind. Reports 5,* 312 (Apr. 25, 1947). Price: $2.00 (Microfilm); $5.00 (Photostat).

The following reports are included; (1) Mechanical development and processes; (2) German knitting industry; and (3) textile converting in Germany. Most of the equipment in Germany is of English make and was acquired not later than 1932-34. A pilot plant at Denkendorf rendered a textile service on samples from every batch of synthetic fiber. Photographs are given of an attachment that makes top rolls of spinning frames self aligning. A method of handling cottonized flax and like fibers as a mixture with other natural or synthetic fibers is presented. Accounts of visits to a large number of plants are given. TTD: 4-48

German textile industry. German cotton, rayon and silk industries. D. W. Hill & others, $5.00. PB

34729, Vol. 3, p. 57. *Bibl. Sci. Ind. Reports 5,* (Apr. 18, 1947). TTD: 4-48

HF dielectric heating. Institute investigating high-frequency dielectric heating. Geo. Ransom. *Textile Age 11,* No. 7, 46, 48 (July, 1947).

Projected work on HF at the Institute of Textile Technology is briefly noted. TTD: 4-48

Italian textile industry. H. Oxholt-Hove. *Tids. Textilteknik 5,* No. 11, 108-14 (Nov. 1947); *in Danish.*

This is an account of the origin and development of the

Italian textile industry. The author deals with natural silk as well as artificial fiber, including the contribution of the Italian industry in the fields of rayon, rayon staple fibers, and casein wool (Lanital), as well as domestic production from local reed (Arundo donax). TTD: 4-48

Textile journals. Nils Gralén. *Textil och Konfektion 5,* No. 1, 12-13, 29 (Jan. 1948); *in Swedish.*

This is a survey of all important international textile journals with critical observations and classification. The importance of subscribing to international textile journals is emphasized. TTD: 4-48

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